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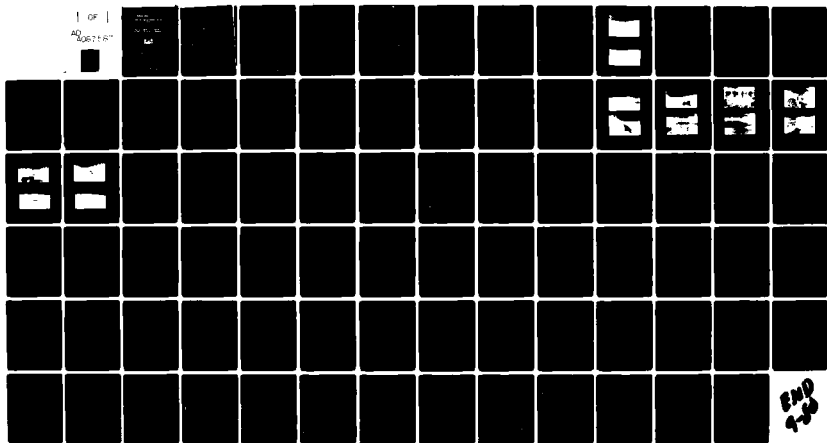
NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERVATION ALBANY F/8 13/13  
NATIONAL DAM SAFETY PROGRAM. FINCH HOLLOW WATERSHED PROJECT SIT--ETC(U)  
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**HOOSIERS RIVER BASIN  
TOWN HALL WATERSHED PROJECT  
SITE 2**

**BOGOTHE COUNTY NEW YORK  
INVENTORY NO. N.Y. 719  
PHASE I INSPECTION REPORT  
NATIONAL DAM SAFETY PROGRAM**



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**NEW YORK DISTRICT CORPS OF ENGINEERS**

**MARCH 1980**

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Phase I inspections are not intended to provide detailed hydrologic and hydraulic analyses. In accordance with the established Guidelines, the Spillway Test flood is based on the estimated "Probable Maximum Flood" for the region (greatest reasonably possible storm runoff), or fractions thereof. Because of the magnitude and rarity of such a storm event, a finding that a spillway will not pass the test flood should not be interpreted as necessarily posing a highly inadequate condition. The test flood provides a measure of relative spillway capacity and serves as an aide in determining the need for more detailed hydrologic and hydraulic studies, considering the size of the dam, its general condition and the downstream damage potential.

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Justification

By \_\_\_\_\_

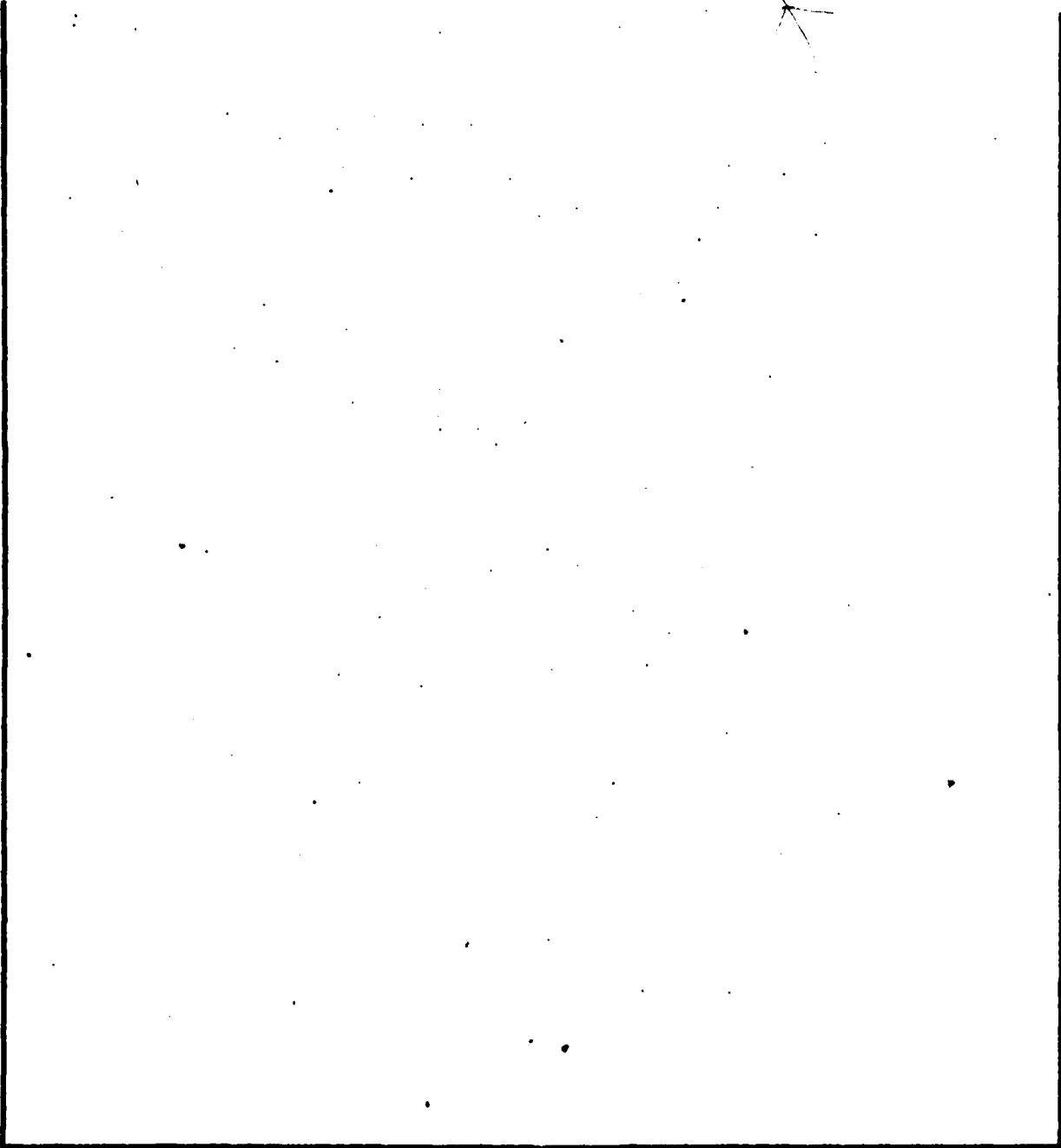
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✓  
The total discharge capacity of the spillways is adequate to impound and safely discharge the floodwaters resulting from the Probable Maximum Flood (PMF).

Several minor deficiencies were noted on this structure. Among these deficiencies were a small depression on the upstream slope near the riser, ponding of water in the bottom of the auxiliary spillway channel, and a substantial accumulation of debris around the intake of the principal spillway riser. These deficiencies should be corrected within 6 months of the date of notification of the owner. In addition, an emergency action plan for notification of downstream residents should be developed within 6 months.



ADA 087587

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report provides information and analysis on the physical condition of the dam as of the report date. Information and analysis are based on visual inspection of the dam by the performing organization. The examination of documents and visual inspection of the Finch Hollow Site 2 Dam did not reveal conditions which constitute a hazard to human life or property. 201		

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⑥ PHASE I INSPECTION REPORT  
 NATIONAL DAM SAFETY PROGRAM  
 FINCH HOLLOW WATERSHED PROJECT SITE 2 (Inventory Number 719)  
 SUSQUEHANNA RIVER BASIN  
 BROOME COUNTY, NEW YORK

Phase I Inspection Report

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⑩ George Koch

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PHASE I INSPECTION REPORT  
NATIONAL DAM SAFETY PROGRAM

Name of Dam: Finch Hollow, Little Choconut &  
Trout Brook Watershed Project  
Site 2 I.D. No. NY 719

State Located: New York

County Located: Broome

Watershed: Susquehanna

Stream: Little Choconut Creek

Date of Inspection: November 8, 1979

ASSESSMENT

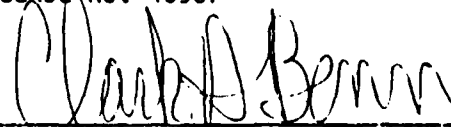
The examination of documents and visual inspection of the Finch Hollow Site 2 Dam did not reveal conditions which constitute a hazard to human life or property.

The total discharge capacity of the spillways is adequate to impound and safely discharge the floodwaters resulting from the Probable Maximum Flood (PMF).

Several minor deficiencies were noted on this structure. Among these deficiencies were a small depression on the upstream slope near the riser, ponding of water in the bottom of the auxiliary spillway channel, and a substantial accumulation of debris around the intake of the principal spillway riser. These deficiencies should be corrected within 6 months of the date of notification of the owner. In addition, an emergency action plan for notification of downstream residents should be developed within 6 months.



George Koch  
Chief, Dam Safety Section  
New York State Department  
of Environmental Conservation  
NY License No. 45937



Col. Clark H. Benn  
New York District Engineer

Approved By:

Date:

30 May 80



OVERVIEW - UPSTREAM FACE  
FINCH HOLLOW WATERSHED PROJECT  
SITE 2  
I.D. No. NY 719



OVERVIEW - DOWNSTREAM FACE

PHASE I INSPECTION REPORT  
NATIONAL DAM SAFETY PROGRAM  
FINCH HOLLOW, LITTLE CHOCONUT, & TROUT BROOK WATERSHED PROJECT  
SITE 2  
I.D. No. NY 719  
(#96A-3844)  
SUSQUEHANNA RIVER BASIN  
BROOME COUNTY, NEW YORK

SECTION 1: PROJECT INFORMATION

1.1 GENERAL

a. Authority

The Phase I inspection reported herein was authorized by the Department of the Army, New York District, Corps of Engineers, to fulfill the requirements of the National Dam Inspection Act, Public Law 92-367.

b. Purpose of Inspection

This inspection was conducted to evaluate the existing conditions of the dam, to identify deficiencies and hazardous conditions, to determine if these deficiencies constitute hazards to life and property, and to recommend remedial measures where required.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam

The Finch Hollow Watershed Project Site 2 consists of an earth dam with a service spillway conduit passing through the embankment and an auxiliary spillway passing around the eastern end of the embankment.

The dam consists of a zoned compacted earth embankment which is 57 feet high, has a crest length of 1050 feet and a crest width of 14 feet. The upstream slope is 1 vertical on 3 horizontal and the downstream slope is 1 vertical on 2.5 horizontal. The crest and exposed slopes are covered by crownvetch. An earth cutoff trench of varying depth and width keys the embankment into the foundation soils.

The principal spillway consists of a rectangular concrete drop inlet structure, a rectangular cast-in-place concrete conduit 6 feet wide by 7 feet high, and a plunge pool cut into bedrock at the outlet end of the conduit. A reservoir drain consisting of a 24 inch diameter cast-iron pipe extends from a point out in the reservoir to the base of the principal spillway riser, a vertical slide gate mechanism mounted along the inside of the riser controls the flow through the reservoir drain. The auxiliary spillway is in a rock cut and has a bottom width of 75 feet.

An internal drainage system consisting of a gravel and sand filter with perforated 10 inch diameter asbestos cement collector pipes is located at the base of the embankment near the downstream toe. Seepage is collected and conducted through this drain and outleted into the plunge pool.

b. Location

Finch Hollow Watershed Project Site 2 is located on the Little Choconut Creek, approximately 3/4 miles north of Johnson City. A four lane highway going to the county airport is adjacent to the reservoir. The dam is in the Town of Dickinson, New York.

c. Size Classification

The dam is 57 feet high and has a maximum storage capacity of 1480 acre-feet. Therefore, the dam is in the intermediate size category as defined by the Recommended Guidelines for Safety Inspection of Dams.

d. Hazard Classification

The dam is classified as "high" hazard due to the presence of a number of homes in Johnson City and a major highway downstream of the dam.

e. Ownership

The dam is owned and operated by the County of Broome, New York. The contracting office's representative is Charles Kark. His phone number is (607)772-2114.

f. Purpose of Dam

The dam is a floodwater retarding structure.

g. Design and Construction History

The dam was designed by the U.S. Department of Agriculture, Soil Conservation Service (SCS). The dam was constructed in 1972 by the Port Cannon Construction Company of Vestal, New York. The SCS office at the Broome County Airport has a design folder containing hydrologic, hydraulic and structural design information, in addition to the as-built plans and contract documents.

h. Normal Operating Procedures

Normal flows are discharged through the principal spillway. This structure has sufficient capacity to store and discharge a 100 year flood without discharge occurring in the auxiliary spillway. For storms in excess of the 100 year flood, discharge through the auxiliary spillway can be expected.

1.3 PERTINENT DATA

<u>a. Drainage Area(sq. mi.)</u>	11.72
<u>b. Discharge at Dam (cfs)</u>	
Principal spillway at maximum high water	1,493
Principal spillway at auxiliary spillway crest elevation	1,092
Auxiliary spillway at maximum high water	31,403
Reservoir drain at principal spillway crest elevation	48
<u>c. Elevation (USGS Datum)</u>	
Top of Dam	976.4
Auxiliary Spillway Crest	950.8
Principal Spillway Crest	931.6
Reservoir Drain, invert elevation	922.9

d. Reservoir Surface Area (acres)

Top of Dam	69.0
Auxiliary Spillway Crest	30.9
Principal Spillway Crest	4.7

e. Storage Capacity (acre-feet)

Top of dam	1480
Auxiliary Spillway Crest	300
Principal Spillway Crest	20

f. Dam

Embankment type - A 3 zoned compacted earth fill with a keyed earth cut-off trench and drain parallel to axis of dam

Embankment length(ft)	1050
Slopes Upstream	1 vertical on 3 horizontal
Downstream	1 vertical on 2 1/2 horizontal
Crest width(ft)	14

g. Principal Spillway

Type: Ungated, reinforced concrete drop inlet (6 x 18 ft), rising 12.6 feet above the invert of the 6.0 x 7.0 ft. concrete conduit; length of conduit 313.1 ft; riprap plunge pool cut into rock.

Weir length (ft)	32.0
------------------	------

h. Auxiliary Spillway

Type: Channel cut into bedrock with trapezoidal cross section	
Bottom Width(ft)	75
Side Slopes (V:H)	1:3
Length of level section(ft)	50
Exit Slope(ft/ft)	0.019

i. Reservoir Drain

Type: 24 inch diameter cast iron pipe with reinforced concrete inlet  
Control: Manually operated vertical slide gate mounted along the inside of the principal spillway riser.

## SECTION 2: ENGINEERING DATA

### 2.1 GEOTECHNICAL DATA

#### a. Geology

The Finch Hollow Watershed Project Site 2 Dam is located in the glaciated portion of the Appalachian uplands (northern extreme of the Appalachian Plateau) physiographic province of New York State. These uplands were formed by dissection of the uplifted but flat lying sandstones and shales of the Middle and Upper Devonian Catskill Delta. The plateau surface is represented by flat-topped divide with drainage generally southwest toward the Susquehanna River system.

Glacial cover is generally thin, although some north-south valleys are so thick that they are completely buried. The present surficial deposits have resulted primarily from glaciations during the Cenozoic Era, the last of which was the Wisconsin glaciation, approximately 11,000 years ago.

#### b. Subsurface Investigations

A subsurface investigation program was conducted by SCS in 1966 prior to construction of the dam. This program consisted of 37 drill holes and 32 test pits at locations along the dam, auxiliary spillway, structural elements, and borrow area. Applicable subsurface information is included in Appendix E (Drawings #25 and 26.)

In general, the soils in the vicinity of the dam are of glacial till origin, gravelly silts and silts overlying a shaly silt - stone bedrock from 10 to 30 feet below the original ground surface. With the exception of those soils having high gravel contents, the soils are of low or very low permeability.

### 2.2 DESIGN RECORDS

The dam was designed by the Soil Conservation Service, who prepared a design report. A folder containing the design report and other design information was available at the SCS office at the Broome County Airport. Twenty-six drawings, several of which have been included in Appendix E, were prepared for the construction of this dam.

### 2.3 CONSTRUCTION RECORDS

Complete construction records are available from the SCS office at the Broome County Airport. Several changes from the original design were made during construction. These changes have been indicated on the as built plans shown in Appendix E.

### 2.4 OPERATION RECORDS

Since the dam is an uncontrolled, floodwater retarding structure, no operating records are maintained regarding water levels. During periods of heavy rainfall, SCS personnel do monitor reservoir levels.

### 2.5 EVALUATION OF DATA

The data presented in this report has been compiled from information obtained

from the Soil Conservation Service as well as the New York State Department of Environmental Conservation files. It appears to be adequate and reliable for Phase I inspection purposes.

## SECTION 3: VISUAL INSPECTION

### 3.1 FINDINGS

#### a. General

Visual inspection of the Site 2 Dam was conducted on November 8, 1979. The weather was overcast and the temperature was in the forties. The water surface at the time of the inspection was at the crest of the principal spillway riser.

#### b. Embankment

No signs of distress were observed in the earth embankment and no evidence of seepage, misalignment, subsidence, or surface cracking were noted on the embankment. Several minor deficiencies were noted. Vehicle wheel paths had been worn into the crest. A small bush was growing on the upstream slope at the east end of the dam. There was a depression on the upstream slope in the vicinity of the principal spillway riser. This depression might have been the result of scouring action of water flowing into the riser.

An internal drainage system composed of 2 - 10 inch diameter pipes surrounded by "drain fill" material and extending parallel to the axis of the dam provides drainage at the embankment-subgrade contact. These pipes outlet into the plunge pool adjacent to the principal spillway conduit. At the time of the inspection, each pipe was discharging a small quantity of clear water.

#### c. Principal Spillway

The principal spillway consists of a vertical drop inlet structure, a cast-in-place rectangular concrete conduit, a plunge pool at the outlet to the conduit, and an outlet channel. These components appeared to be in satisfactory condition. The only deficiency noted was a build up of debris surrounding the inlet to the spillway riser.

#### d. Auxiliary Spillway

The auxiliary spillway for this structure is located in an earth and rock cut at the eastern end of the dam. The channel was in satisfactory condition. However, there was a rather large area in which water ponds on the channel bottom. In some places this water was as much as 6 inches deep.

#### e. Reservoir Drain

The 24 inch diameter reservoir drain and manually operated slide gate may be used to lower the reservoir. The slide gate control mechanism is located at the top of the riser. This system was reported to be operational.

#### f. Downstream Channel

The downstream channel below the plunge pool is riprapped. The channel appeared to be in satisfactory condition.



g. Reservoir

There were no signs of soil instability in the reservoir area.

3.2 EVALUATION

Visual inspection of this dam revealed the following deficiencies:

1. A small depression on the upstream slope behind the principal spillway riser.
2. Wheel paths worn into the embankment along the crest.
3. Debris collecting around the inlet to the principal spillway riser.
4. Ponding in the bottom of the auxiliary spillway channel.

## SECTION 4: OPERATION AND MAINTENANCE PROCEDURES

### 4.1 PROCEDURES

The normal water surface elevation is at the crest elevation of the principal spillway riser. Downstream flows are limited by the flow over the principal spillway riser, except during periods of extremely heavy runoff when the auxiliary spillway is in service.

### 4.2 MAINTENANCE OF THE DAM

The dam is maintained by the owner, Broome County. Increased maintenance is required to correct deficiencies such as the debris surrounding the principal spillway riser and the water ponding in the auxiliary spillway channel.

### 4.3 WARNING SYSTEM IN EFFECT

There is no warning system in effect.

### 4.4 EVALUATION

The operation procedures for this structure are satisfactory. Increased maintenance efforts are required to correct the deficiencies noted above.

## SECTION 5: HYDROLOGIC/HYDRAULIC

### 5.1 DRAINAGE AREA CHARACTERISTICS

Delineation of the 11.72 square mile watershed of the Site 2 dam was made using the USGS 7.5 minute quadrangle for Castle Creek, New York. The watershed consists of open grassed fields and woodlands. Relief in the drainage area ranges from moderate to steep.

The analysis for this report was performed using the entire drainage area for this structure. There are several other dams which are part of this watershed project upstream of this reservoir. No attenuation due to storage in these reservoirs was assumed in this analysis.

### 5.2 ANALYSIS CRITERIA

The analysis of the floodwater retarding capability of this dam was performed using the Corps of Engineers HEC-1 computer program, Dam Safety version. This program develops an inflow hydrograph using the "Snyder Synthetic Unit Hydrograph" method and then uses the "Modified Puls" flood routing procedure. The spillway design flood selected was the Probable Maximum Flood (PMF) in accordance with the Recommended Guidelines of the U.S. Army Corps of Engineers.

### 5.3 SPILLWAY CAPACITY

The principal and auxiliary spillways are ungated structures. The capacities for both spillways were taken from the stage-discharge curves included in the SCS design computations folder.

The spillways have sufficient capacity for discharging the peak outflow from the PMF. For this storm, the peak inflow is 12,746 cfs and the peak outflow is 12,657 cfs. When the spillways are discharging the peak outflow, the water surface will be 10.9 feet below the top of the dam. Further information concerning this analysis is included in Appendix C.

### 5.4 RESERVOIR CAPACITY

Normal flood control storage capacity of the reservoir between the principal and auxiliary spillway is 291 acre-feet which is equivalent to a runoff depth of 0.5 inches over the drainage area. Surge storage capacity to the maximum high water elevation is an additional 1180, acre-feet, equivalent to a runoff depth over the drainage area of 1.9 inches. Total storage capacity of the dam is 1480 acre-feet.

### 5.5 FLOODS OF RECORD

The maximum known flood occurred on September 27, 1975. The pool level at this time was reported to be about 5.0 feet above the principal spillway crest. The calculated discharge for this flood is as follows:

<u>Elevation (USGS)</u>	<u>Discharge (cfs)</u>
936.6	787

#### 5.6 OVERTOPPING POTENTIAL

Analysis indicates that the total discharge capacity is sufficient to prevent overtopping from the PMF.

#### 5.7 EVALUATION

This dam has sufficient capability to impound and adequately discharge floodwaters expected to result from the PMF.

## SECTION 6: STRUCTURAL STABILITY

### 6.1 EVALUATION OF STRUCTURAL STABILITY

#### a. Visual Observations

No signs of distress were observed in connection with the earth embankment.

#### b. Design and Construction Data

No information regarding the slope stability analysis performed for the design of this structure was available from SCS. A slope stability analysis of the earth embankment is beyond the scope of work of this Phase I report. However, the slopes are relatively flat and there was no evidence of any instability.

#### c. Seismic Stability

No seismic stability analysis was performed for this structure.

## SECTION 7: ASSESSMENT/RECOMMENDATIONS

### 7.1 ASSESSMENT

#### a. Safety

The Phase I inspection of the Finch Hollow Dam Site 2 dam did not reveal conditions which constitute a hazard to human life or property. The earth embankment is considered to be structurally stable and the spillways are capable of retarding and safely discharging floodwaters resulting from the Probable Maximum Flood (PMF).

#### b. Adequacy of Information

Information reviewed for Phase I inspection purposes is considered to be adequate.

#### c. Need for Additional Investigations

No additional investigations are necessary at this time.

### 7.2 RECOMMENDED MEASURES

- a. Repair the small depression on the upstream slope behind the principal spillway riser.
- b. Modify the grading in the auxiliary spillway channel to eliminate the ponding.
- c. Remove the debris which surrounds the intake of the principal spillway riser. Provide a program of periodic inspection and maintenance of the dam and appurtenances, including operation and lubrication of the slide gate mechanism. Document this information for future reference.
- d. Develop an emergency action plan for notification of downstream residents and the proper authorities in the event of large auxiliary spillway discharge.

APPENDIX A

PHOTOGRAPHS



CREST of EMBANKMENT LOOKING WEST



OUTLET of PRINCIPAL SPILLWAY CONDUIT and DOWNSTREAM CHANNEL





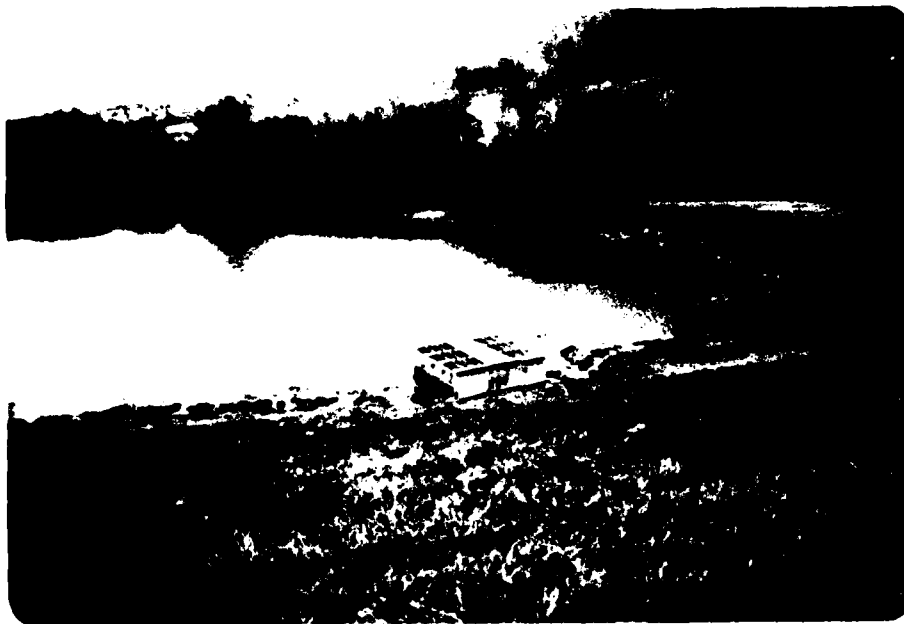
UPSTREAM SLOPE of EMBANKMENT and PRINCIPAL SPILLWAY RISER



PHOTO SHOWING RELATIVE LOCATIONS  
of PRINCIPAL SPILLWAY RISER and ENTRANCE  
to AUXILIARY SPILLWAY CHANNEL



PRINCIPAL SPILLWAY RISER  
NOTE DEBRIS AROUND INLET



PRINCIPAL SPILLWAY RISER WITH INLET TO  
AUXILIARY SPILLWAY CHANNEL IN BACKGROUND



OUTLET to PRINCIPAL SPILLWAY CONDUIT



OUTLETS to PRINCIPAL SPILLWAY CONDUIT and to INTERNAL DRAINAGE SYSTEM



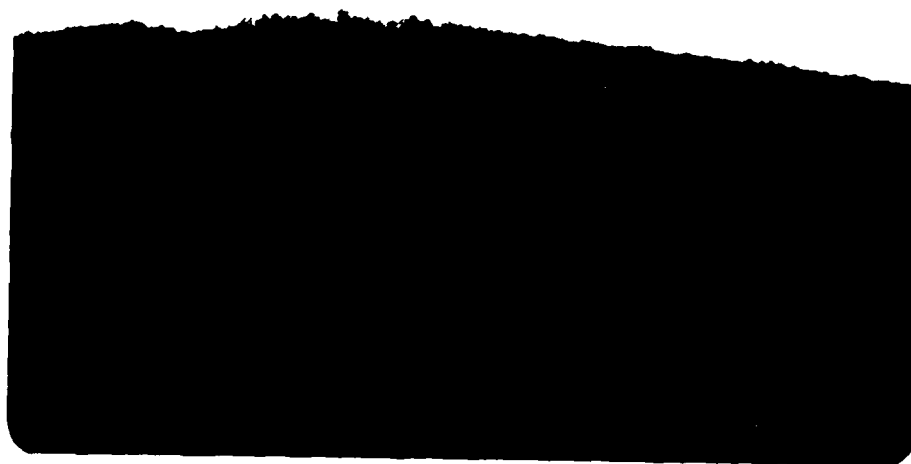
ENTRANCE to AUXILIARY SPILLWAY CHANNEL



AUXILIARY SPILLWAY CHANNEL LOOKING DOWNSTREAM



PONDED WATER on BOTTOM of AUXILIARY SPILLWAY CHANNEL



DOWNSTREAM SLOPE of DAM WITH OUTLET  
to AUXILIARY SPILLWAY CHANNEL at RIGHT

APPENDIX B

VISUAL INSPECTION CHECKLIST

VISUAL INSPECTION CHECKLIST

1) Basic Data

a. General

Name of Dam FINCH HOLLOW SITE No. 2  
Fed. I.D. # 719 DEC Dam No. 96A-3844  
River Basin SUSQUEHANNA  
Location: Town DICKINSON County BROOME  
Stream Name LITTLE CHOCONUT CREEK  
Tributary of \_\_\_\_\_  
Latitude (N) 42° 8.2' Longitude (W) 75° 56.5'  
Type of Dam EARTH  
Hazard Category C  
Date(s) of Inspection 11/8/79  
Weather Conditions 40° OVERCAST  
Reservoir Level at Time of Inspection 68<sup>3</sup>/<sub>4</sub>" BELOW TOP OF RISER

b. Inspection Personnel R. WARRENDER W. LYNICK

c. Persons Contacted (Including Address & Phone No.) GARY PAGE - SCS AREA OFFICE  
BROOME CO. AIRPORT 607-773-2751  
SCOTT SNOVER 315-423-5526 SCS - SYRACUSE OFFICE

d. History:

Date Constructed 1972 Date(s) Reconstructed \_\_\_\_\_

Designer SCS

Constructed By PORT CANNON CONSTRUCTION CO., VESTAL, NEW YORK

Owner BROOME COUNTY

2) Embankment

a. Characteristics

- (1) Embankment Material EARTH AND ROCK FILL
- (2) Cutoff Type EARTH
- (3) Impervious Core NONE
- (4) Internal Drainage System PERFORATED PIPE SURROUNDED BY DRAIN FILL
- (5) Miscellaneous ALL SLOPES HAVE A SATISFACTORY VEGETATIVE COVER EXCEPT FOR SMALL ROCKFILL AREA JUST ABOVE OUTLET CONDUIT

b. Crest

- (1) Vertical Alignment SATISFACTORY
- (2) Horizontal Alignment CURVILINEAR - SATISFACTORY - THERE WAS A SIGNIFICANT ALTERATION TO ORIGINAL DESIGN - SEE AS BUILT PLANS
- (3) Surface Cracks NONE
- (4) Miscellaneous VEHICLE WHEEL PATH ALONG CREST. CREST IS HIGHER THAN COUNTY AIRPORT ROAD - 4 LANE DIVIDED

c. Upstream Slope

- (1) Slope (Estimate) (V:H) 1 ON 3
- (2) Undesirable Growth or Debris, Animal Burrows 1 SMALL BUSH AT EAST END OF DAM
- (3) Sloughing, Subsidence or Depressions NONE - SLIGHT DEPRESSION ON SLOPE SIDE OF RISER



(4) Slope Protection NONE OTHER THAN CROWN VETCH /  
GRASS VEGETATION

(5) Surface Cracks or Movement at Toe NONE

d. Downstream Slope

(1) Slope (Estimate - V:H) 1 ON 2.5

(2) Undesirable Growth or Debris, Animal Burrows NONE CROWN VETCH  
WITH GRASS - SATISFACTORY VEGETATIVE COVER

(3) Sloughing, Subsidence or Depressions NONE

(4) Surface Cracks or Movement at Toe NONE

(5) Seepage NONE

(6) External Drainage System (Ditches, Trenches; Blanket) ROCK LINED  
CHANNELS ALONG ABUTMENTS ON DOWNSTREAM SLOPE

(7) Condition Around Outlet Structure HEAVY RIPRAP EXTENDING INTO  
DOWNSTREAM CHANNEL BANKS ON RIGHT SIDE - LEFT SIDE - ROCK CUT

(8) Seepage Beyond Toe NONE

e. Abutments - Embankment Contact

RIPRAP AT INTERFACE ON BOTH SIDES

(1) Erosion at Contact NONE

(2) Seepage Along Contact NONE

3) Drainage System

a. Description of System 10" DIAMETER ASBESTOS CEMENT PIPE  
W/ ANIMAL GUARDS AT OUTLET

b. Condition of System SATISFACTORY - FUNCTIONING

c. Discharge from Drainage System LESS THAN 1 GAL. PER MIN. FROM  
BOTH - DISCHARGE WAS CLEAR WATER

4) Instrumentation (Monumentation/Surveys, Observation Wells, Weirs,  
Piezometers, Etc.)

NONE

5) Reservoir

- a. Slopes RIGHT SIDE - EMBANKMENT OF COUNTY AIRPORT ROAD  
LEFT SIDE - HILLSIDE - NATURAL
- b. Sedimentation NONE APPARENT
- c. Unusual Conditions Which Affect Dam NONE

6) Area Downstream of Dam

- a. Downstream Hazard (No. of Homes, Highways, etc.) RTE 17 - COUNTY  
AIRPORT ROAD - HIGHLY RESIDENTIAL AREAS IN JOHNSON CITY
- b. Seepage, Unusual Growth NONE
- c. Evidence of Movement Beyond Toe of Dam NONE
- d. Condition of Downstream Channel SATISFACTORY

7) Spillway(s) (Including Discharge Conveyance Channel)

SCS SINGLE STAGE VERTICAL RISER W/ 6'x7' CONCRETE  
CONDUIT & ROCK CUT AUXILIARY SPILLWAY

- a. General RISER - LARGE DEBRIS AT ALL ENTRANCES - PLUS ON ALL  
WEIR CRESTS & INTERMIXED WITH SUBMERGED STEEL  
BARs
- b. Condition of Service Spillway - EXCEPT FOR DEBRIS THE  
~~SE~~ PRINCIPAL SPILLWAY IS IN SATISFACTORY CONDITION

- c. Condition of Auxiliary Spillway ROCK CUT - LARGE WET AREA WITH  
STANDING WATER IN INVERT OF THE CHANNEL. AREA IS  
JUST UPSTREAM OF THE AXIS OF THE DAM & DOWNSTREAM

SPILLWAY OUTLET - NATURAL VERTICAL ROCK PLUNGE INTO DOWNSTREAM

- d. Condition of Discharge Conveyance Channel SATISFACTORY

8) Reservoir Drain/Outlet

Type: Pipe ☒ Conduit \_\_\_\_\_ Other \_\_\_\_\_

Material: Concrete \_\_\_\_\_ Metal ☒ Other \_\_\_\_\_

Size: 24" Length 40'

Invert Elevations: Entrance 922.9 Exit 918.3

Physical Condition (Describe): \_\_\_\_\_ Unobservable ☒

Material: \_\_\_\_\_

Joints: \_\_\_\_\_ Alignment \_\_\_\_\_

Structural Integrity: \_\_\_\_\_

Hydraulic Capability: \_\_\_\_\_

Means of Control: Gate ☒ Valve \_\_\_\_\_ Uncontrolled \_\_\_\_\_

Operation: Operable \_\_\_\_\_ Inoperable \_\_\_\_\_ Other \_\_\_\_\_

Present Condition (Describe): DEBRIS COLLECTED BEHIND

GATE LIFTING ROD

9) Structural

- a. Concrete Surfaces ALL SATISFACTORY
- b. Structural Cracking NONE APPARANT
- c. Movement - Horizontal & Vertical Alignment (Settlement) NONE
- d. Junctions with Abutments or Embankments
- e. Drains - Foundation, Joint, Face
- f. ~~Water Passages~~, Conduits, ~~Sluices~~ SATISFACTORY
- g. Seepage or Leakage NONE OBSERVED

- h. Joints - Construction, etc. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- i. Foundation \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- j. Abutments \_\_\_\_\_  
\_\_\_\_\_
- k. Control Gates \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- l. Approach & Outlet Channels \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- m. Energy Dissipators (Plunge Pool, etc.) NATURAL ROCK W/RIP RAP  
SIDES TO ELEVATION OF TOP CONDUIT
- n. Intake Structures RISER OKAY EXCEPT FOR THE DEBRIS
- o. Stability \_\_\_\_\_  
\_\_\_\_\_
- p. Miscellaneous \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

APPENDIX C

HYDROLOGIC/HYDRAULIC  
ENGINEERING DATA AND COMPUTATIONS

CHECK LIST FOR DAMS  
HYDROLOGIC AND HYDRAULIC  
ENGINEERING DATA

1

AREA-CAPACITY DATA:

	<u>Elevation</u> (ft.)	<u>Surface Area</u> (acres)	<u>Storage Capacity</u> (acre-ft.)
1) Top of Dam	<u>976.4</u>	<u>69.0</u>	<u>1480</u>
2) Design High Water (Max. Design Pool)	<u>958.8</u>	<u>41.7</u>	<u>590</u>
3) Auxiliary Spillway Crest	<u>950.8</u>	<u>30.9</u>	<u>300</u>
4) Pool Level with Flashboards	<u>          </u>	<u>          </u>	<u>          </u>
5) Service Spillway Crest	<u>931.6</u>	<u>4.7</u>	<u>20</u>

DISCHARGES

	<u>Volume</u> (cfs)
1) Average Daily	<u>          </u>
2) Spillway @ Maximum High Water	<u>32,200</u>
3) Spillway @ Design High Water	<u>5,270</u>
4) Spillway @ Auxiliary Spillway Crest Elevation	<u>1,089</u>
5) Low Level Outlet	<u>48</u>
6) Total (of all facilities) @ Maximum High Water	<u>32,200</u>
7) Maximum Known Flood	<u>787</u>



## CREST:

ELEVATION: 976.4Type: GRASSED EARTHWidth: 14Length: 1050Spillover AUXILIARY CHANNELLocation EASTERN END OF DAM

## SPILLWAY:

## PRINCIPAL

931.6

Elevation

## EMERGENCY

950.8RC DROP INLET

Type

TRAPEZOIDAL CHANNEL6' X 18'

Width

75'

## Type of Control

V

Uncontrolled

V

Controlled:

Type

(Flashboards; gate)

Number

Size/Length

Invert Material

Anticipated Length  
of operating service

Chute Length

Height Between Spillway Crest  
& Approach Channel Invert  
(Weir Flow)

## OUTLET STRUCTURES/EMERGENCY DRAWDOWN FACILITIES:

Type: Gate ✓ Sluice \_\_\_\_\_ Conduit \_\_\_\_\_ Penstock \_\_\_\_\_  
Shape: GATE - FLAT CIRCULAR CONDUIT ROUND CAST IRON  
Size: 24" 24"  
Elevations: Entrance Invert 922.9  
Exit Invert 921.4  
Tailrace Channel: Elevation \_\_\_\_\_

## HYDROMETEROLOGICAL GAGES:

Type: NONE  
Location: \_\_\_\_\_  
Records: \_\_\_\_\_  
Date - NONE  
Max. Reading - \_\_\_\_\_

## FLOOD WATER CONTROL SYSTEM:

Warning System: NONE  
\_\_\_\_\_  
Method of Controlled Releases (mechanisms):  
RESERVOIR DRAIN  
\_\_\_\_\_  
\_\_\_\_\_

DRAINAGE AREA: 11.72 SQ. MI.

DRAINAGE BASIN RUNOFF CHARACTERISTICS:

Land Use - Type: RESIDENTIAL + OPEN FIELDS

Terrain - Relief: MODERATE TO STEEP

Surface - Soil: GLACIAL TILL

Runoff Potential (existing or planned extensive alterations to existing (surface or subsurface conditions)

NONE - BUT LAND IS DEVELOPABLE

Potential Sedimentation problem areas (natural or man-made; present or future)

NONE

Potential Backwater problem areas for levels at maximum storage capacity including surcharge storage:

SEWAGE PUMP STATION 6' BELOW UPSTREAM

CROSSING AT LEWIS ROAD - CONSTRUCTED AFTER

DAM WAS BUILT,

Dikes - Floodwalls (overflow & non-overflow) - Low reaches along the Reservoir perimeter:

Location: NONE

Elevation:

Reservoir:

Length @ Maximum Pool  (Miles)

Length of Shoreline (@ Spillway Crest)  (Miles)

PROJECT GRID

JOB	FINCH HOLLOW SITE 2	SHEET NO.	CHECKED BY	DATE
SUBJECT	HYDRAULIC COMPUTATIONS	COMPUTED BY	RLW	DATE 3/13/80

PRINCIPAL SPILLWAY CAPACITY

FROM SCS REPORT - FORMULAS

WEIR FLOW	ORIFICE FLOW
$Q = 99.2 H^{3/2}$	$Q = 201.09 H^{5/2}$

WATER SURFACE AT TOP OF DAM

$Q = (99.2)(44.8)^{3/2} = 29,746 \text{ cfs}$	$Q = 201.09(55.1)^{5/2} = 1493 \text{ cfs}$
	↑ THIS CONTROLS

WATER SURFACE AT AUXILIARY SPILLWAY CREST

$Q = 99.2(19.2)^{3/2} = 8346 \text{ cfs}$	$Q = 201.09(27.5)^{5/2} = 1092 \text{ cfs}$
	↑ THIS CONTROLS

WATER SURFACE AT MAXIMUM KNOWN LEVEL

$Q = 99.2(5)^{3/2} = 1109 \text{ cfs}$	$Q = 201.09(15.3)^{5/2} = 787 \text{ cfs}$
	↑ THIS CONTROLS

RESERVOIR DRAIN CAPACITY

WATER SURFACE AT PRINCIPAL SPILLWAY CREST

$$Q = A \sqrt{\frac{2gH}{1 + K_e + K_b + K_{pL}}} = 3.14 \sqrt{\frac{2(32.2)(931.6 - 923.9)}{1 + 0 + 0 + (0.065)(40)}}$$

$$A = \pi(1)^2 = 3.14$$

$$= 47.6 \text{ cfs}$$

## LITTLE CHOCONUT CREEK WATERSHED

SITE 2

NY-2015-D

DESIGN DATA

<u>ITEM</u>	<u>UNIT</u>	<u>QUANTITY</u>
Site Location: Latitude	--	42°08' 28"
Longitude	--	75°57' 56" 34"
Drainage Area: (Uncontrolled)	Sq.Mi.	5.00
	Acres	3,200
Total	Sq.Mi.	11.75
Class of Structure:		(c)
Principal Spillway:		
Pipe size (inside diameter)	Ft.	6x7
Riser size	Ft.	6x18
Pipe length (approx.)	Ft.	310
Riser Crest Elev.	Ft.	931.6
Pipe Outlet Invert Elev.	Ft.	918.0
Emergency Spillway:		
Bottom width	Ft.	75
Level section length	Ft.	50
Entrance length	Ft.	400
Roughness coefficient	--	0.04
Entrance slope ( $S_o$ )	Percent	2
Crest elevation ( $E_e$ )	Ft.	950.8
Exit slope ( $S_e$ )	Percent	2.5
Storage:		
Retarding (Min. $V_{sp}$ )	Ac.Ft.	300
Releases:		
Peak Principal Spillway ( $Q_p$ )	cfs	1089
Emergency Spillway Hydrograph $E_w$	Ft.	958.8
Top of Dam	Ft.	976.4

Little Choconut Creek Watershed

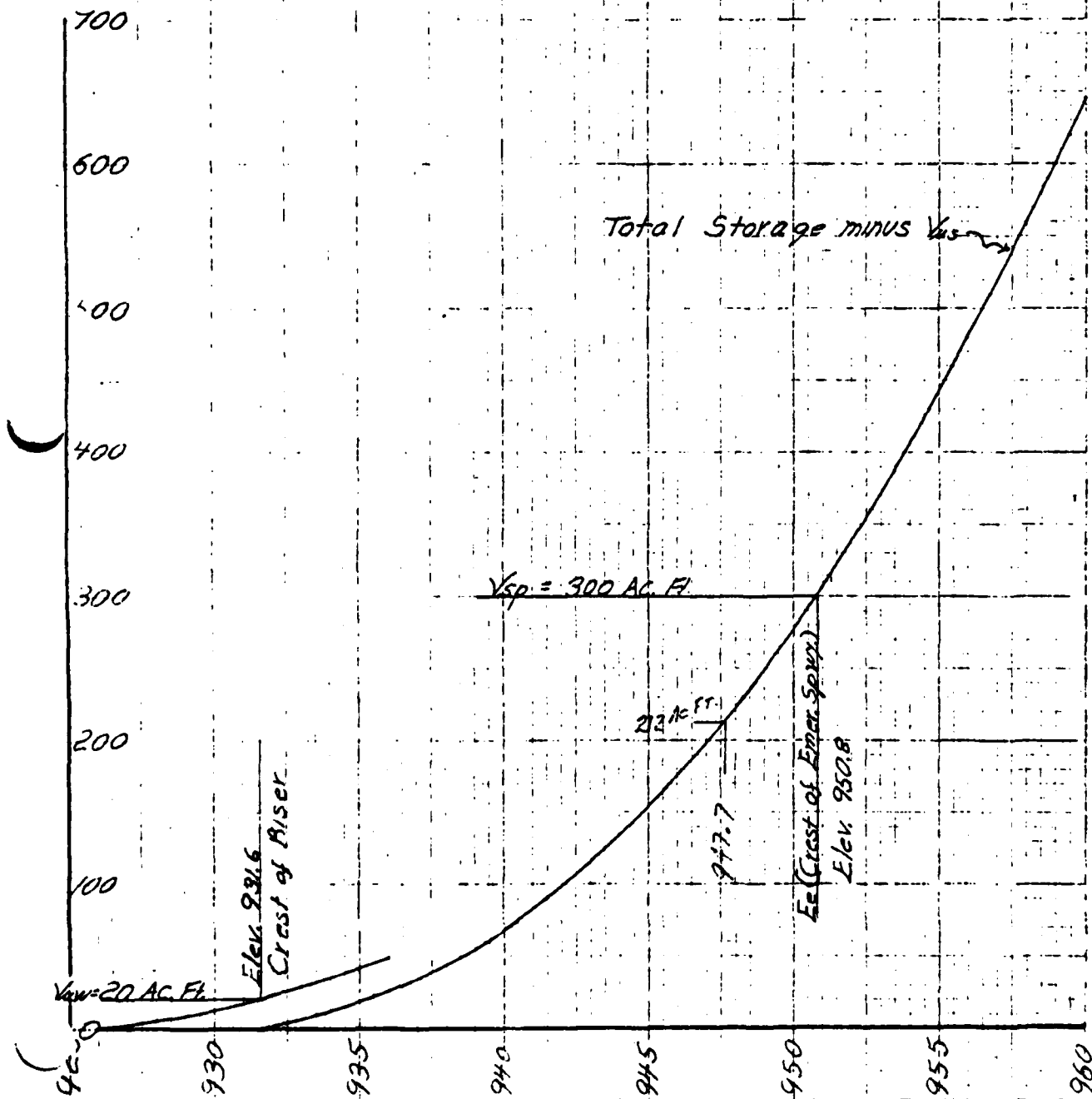
Site 2

NY-2015-D

Stage-Storage Curve

LCI 9/87

3-2



STATE

NEW YORK

PROJECT

LITTLE CHOCONUT CREEK W.S. SITE #2

BY

DATE

CHECKED BY

DATE

JOB NO

SUBJECT

1/67

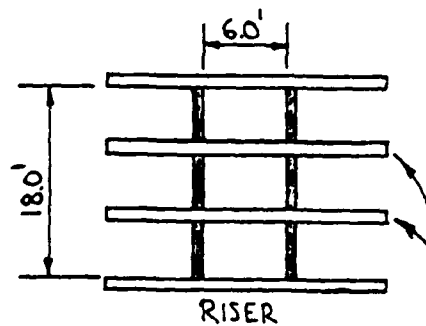
1/67

NY-2015-D

FLOW CONSTANTS FOR RISER & MONOLITH

SHEET OF 4-1

WEIR FLOW - CREST OF RISER



$$Q = CLH^{3/2}$$

$$Q = (3.1)(32.0) H^{3/2}$$

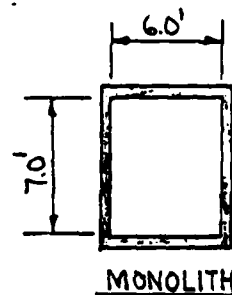
$$Q = 99.2 H^{3/2}$$

NOTE: TWO SPLITER WALLS 1.0' THICK WERE USED.

$$\therefore L = 18 + 18 - 4(1) = 32.0 \text{ ft}$$

$$C = 3.1$$

PIPE FLOW - FOR 7x6 CONCRETE MONOLITH



$$Q = CA \sqrt{2gh}$$

$$Q = (0.597)(42.0)(8.02) h^{1/2}$$

$$Q = 201.09 h^{1/2}$$

$$C = \frac{1}{\sqrt{1 + K_e + K_c L_p}}$$

$$C = \frac{1}{\sqrt{2 + (0.0026)(310)}}$$

$$C = \frac{1}{\sqrt{2.806}}$$

$$C = \frac{1}{1.675}$$

$$C = 0.597$$

$$A_p = 42.0 \text{ ft}^2$$

$$L_p = 310.0 \text{ ft}$$

$$n = 0.013$$

$$K_e = 1.0$$

$$K_c = 0.00260$$







[illegible]

DATE 02/12/93

FINCH HOLLOW, LITTLE CHOCOMUT SITE 2  
PHASE I  
CONF.

[illegible]

MULTI-PLAN ANALYSES TO BE PERFORMED  
NPLAN= 1 IRTID= 2 LRTID= 1

0.50 1.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

SUR-AREA RINDOFF COMPUTATION

INFLUJ	FROM	TOTAL	BASIN	IFCON	ITAPE	JPLT	JPLT	INAME	ISTAGE	IAUTO
ISTAG	ICOMP									
1	0	0	0	2	0	0	1	0	0	0

HYDROGRAPH DATA									
TIME	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL		
1	11.72	0.	0.	0.	0	1	0		
1	11.72	0.	0.	0.	0	1	0		

PRECIP DATA		P72	R96
P15	P6	R24	R48
20.50	96.00	121.00	129.00
0.		0.	0.

TABLE CAPTURED BY THE PROGRAM IS 0.000

LOSS DATA										
SCRIPT	SFRGR	DLTKR	RTIHL	ENRHN	STRKS	RTINK	STRTL	CUSTL	ALSHX	RTIMP
0	0.	0.	1.00	0.	0.	1.00	1.00	0.10	0.	0.

UNIT HYDROGRAPH DATA  
TP= 5.40 CP=0.63 IIIA= 0

```

APPROXIMATE CLANK COEFFICIENTS FROM GIVEN SINDER CP AND TP ARE TC=11.98 AND R=10.05 INTERVALS
RECSSION DATA
STATQ= -2.00 GRCSN= -0.05 RTLR= 1.00

```

[illegible]

0-00000-00000-00000

Year	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000
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[illegible]

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL	VOLUME
CFS	373.	554.6	2659.	107P.	156224.	
CHS	180.	158.	75.	31.	4424.	
INCHES		4.43	8.41	10.26	10.33	
		112.62	213.64	260.69	262.46	
AC-FT		2770.	5255.	6412.	6456.	
THOUS CU YD		3417.	6482.	7909.	7963.	

[illegible]

ROUTE THRU RES. KVICIR  
ISTAC. ICD.

STAGE	931.60	933.50	935.00	940.00	950.00	955.00	959.80	964.70	970.00	975.00
FLUID	0.	250.00	025.00	060.00	1090.00	2405.00	6108.00	11468.00	19520.00	29970.00
CAPACITY	0.	10.	20.	46.	70.	98.	155.	300.	590.	
ELEVATION	120.	934.	935.	938.	940.	942.	945.	948.	951.	959.

CRL	SOLID	CDQM	FXPW	ELEV	CNQL	CAKEA	EXPL
931.6	0.	0.	0.	0.	0.	0.	0.

DATA DATA		
TYPEL	COORD	EXPD
976.4	3.0	1.5
		1050.

STATION 1, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH URINATES

**OUTFLOW**

[illegible]

[illegible][illegible]

PEAK	OUTFLOW IS	6242, AT TIME	45.50 HOURS	6-HOUR	24-HOUR	72-HOUR	TOTAL	VOLUME
	CFS	6242.		5462.	2608.	1077.	156148.	
	CMS	177.		155.	74.	30.	4422.	
	INCLIES			4.33	8.28	10.26	10.33	
	MJ			110.11	210.28	260.57	262.33	
	AC-FT			2708.	5172.	6409.	6452.	
	THOUS C.F.T			3340.	6360.	7905.	7959.	

STAGE									
931.9	931.7	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8
931.4	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8
931.4	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8
931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8
932.0	932.0	932.1	932.2	932.2	932.2	932.2	932.2	932.2	932.2
932.5	932.6	932.6	932.6	932.6	932.6	932.6	932.6	932.6	932.6
935.3	935.9	936.4	938.1	939.4	941.1	943.1	945.6	948.5	951.5
954.1	956.9	959.0	963.5	961.8	963.0	964.0	965.3	965.3	965.5
				963.6	962.9	962.1	961.5	960.8	960.3



[illegible]

PEAK: OUTFLOW IS 12657. AT TIME 45.00 HOURS

	P.P.A.	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	12657.	11052.	5189.	2153.	312121.
CMS	353.	313.	147.	61.	8830.
INCHES		8.77	16.47	20.51	20.64
		222.82	416.41	520.85	524.37
AC-FT		5480.	10291.	17011.	12893.
THOUS CUM		6760.	12684.	15802.	15909.

PEAK FLOW AND STORAGE (END OF PERIOD) SUMMARY FORMULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS  
 FLOWS IN CUBIC FEET PER SECOND (CUBIC METERS PER SECOND)  
 AREA IN SQUARE MILES (SQUARE KILOMETERS)

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO FLOWS	
				RATIO 1	RATIO 2
HYD DIAGRAM AT	1	11.72	1	0.50	1.00
	(	0.00)	(	64/3.	12746.
ROUTED TO	1	11.72	1	( 180.46)(	360.92)(
	(	0.00)	(	6292.	12657.
				( 176.74)(	358.39)(

# SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....									
ELEVATION		INITIAL VALUE		SPILLWAY CREST		TOP OF DAM		TIME OF	
STORAGE		931.60		931.60		976.40		FAILURE	
OUTFLOW		9.		9.		1480.		HOURS	
		0.		0.		32896.		0.	
								45.50	
								45.00	
								0.	
								0.	
								</	

APPENDIX D  
REFERENCES

## APPENDIX D

### REFERENCES

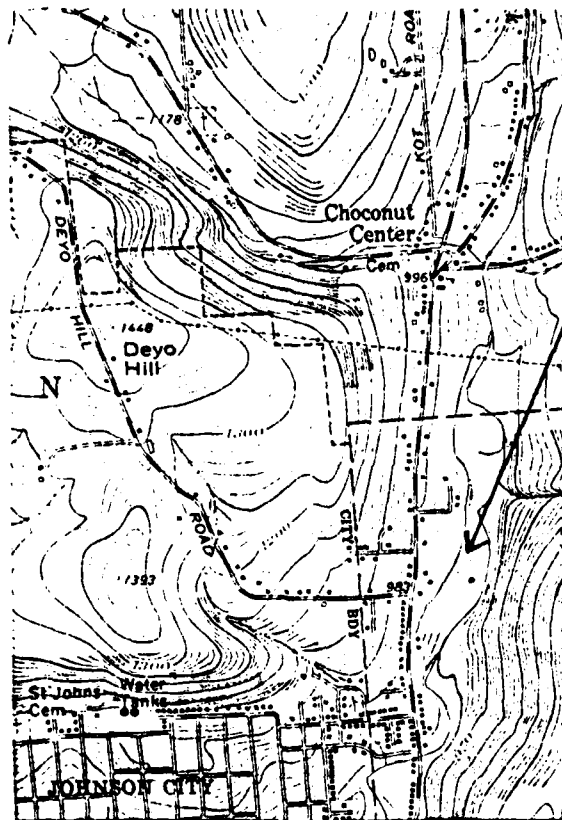
- 1) U.S. Department of Commerce; Weather Bureau;  
Hydrometeorological Report No. 33 - Seasonal Variation of the Probable  
Maximum Precipitation East of the 105th Meridian for Areas from 10 to  
1,000 Square Miles and Durations of 6, 12, 24, and 48 Hours, April 1956.
- 2) H.W. King and E.F. Brater, Handbook of Hydraulics, 5th edition,  
McGraw-Hill, 1963.
- 3) University of the State of New York, Geology of New York, Education  
Leaflet 20, Reprinted 1973.
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- 5) U.S. Department of the Interior, Bureau of Reclamations;  
Design of Small Dams, 2nd edition (rev. reprint), 1977.

APPENDIX E  
DRAWINGS

DAM SITE



VICINITY MAP  
FINCH HOLLOW WATERSHED PROJECT  
SITE 2  
I.D. No. NY 719



TOPOGRAPHIC MAP  
FINCH HOLLOW WATERSHED PROJECT  
SITE 2  
I.D. No. NY 719



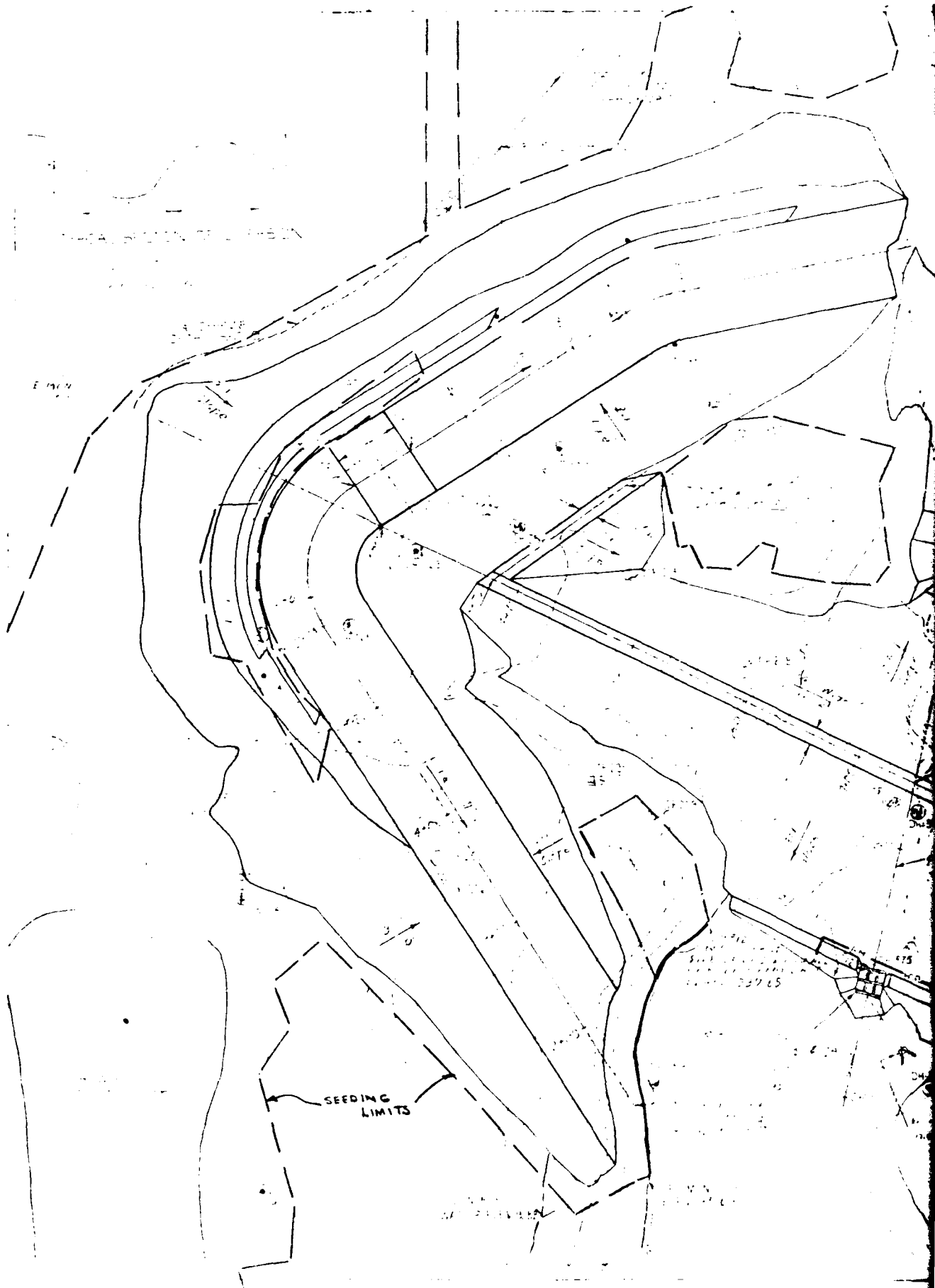


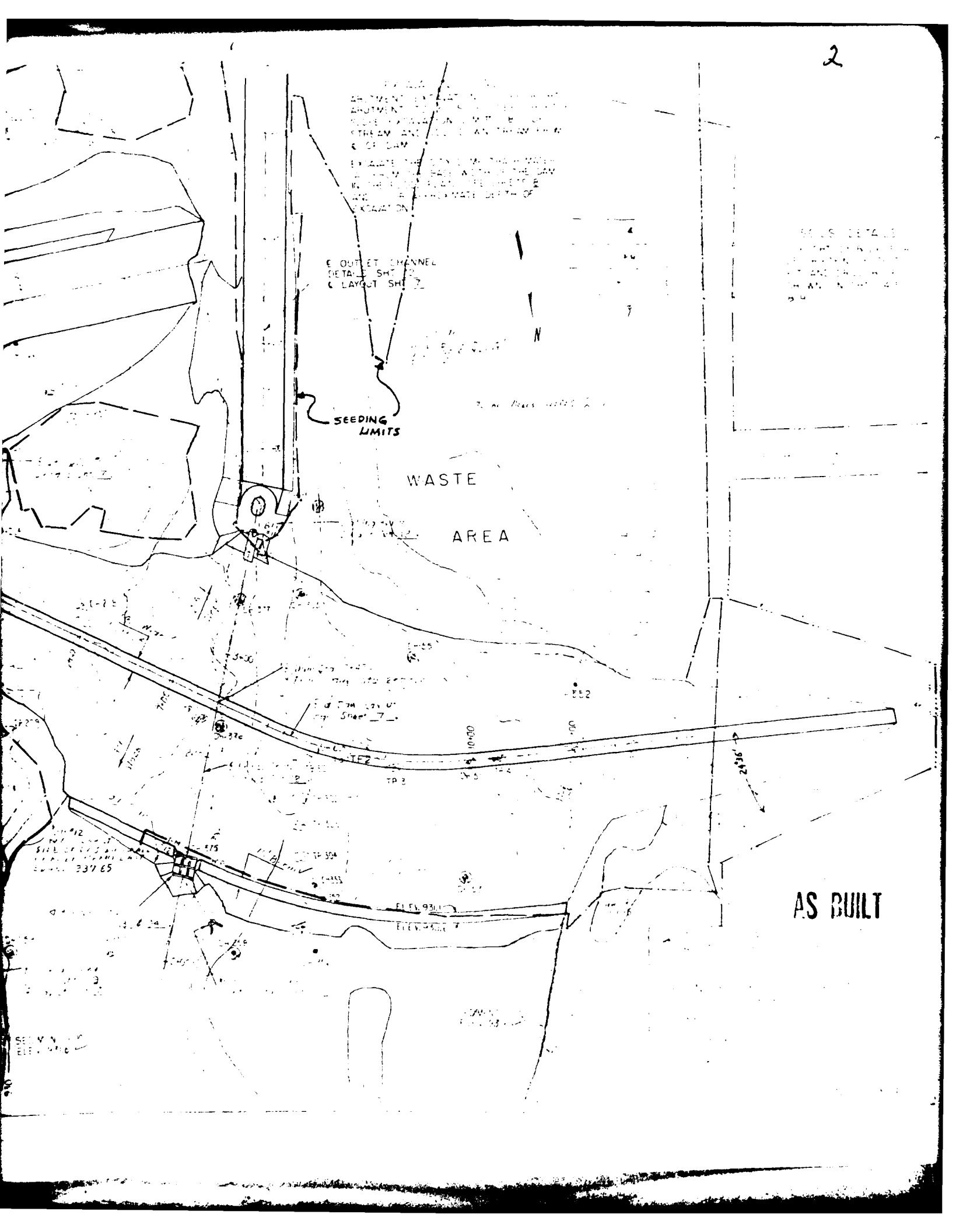
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 74. EXHIBIT 74  
 75. EXHIBIT 75  
 76. EXHIBIT 76  
 77. EXHIBIT 77  
 78. EXHIBIT 78  
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 95. EXHIBIT 95  
 96. EXHIBIT 96  
 97. EXHIBIT 97  
 98. EXHIBIT 98  
 99. EXHIBIT 99  
 100. EXHIBIT 100

E. OUTLET CHANNEL  
 DETAIL SH. 7  
 C. LAYOUT SH. 7

SEEDING  
 LIMITS

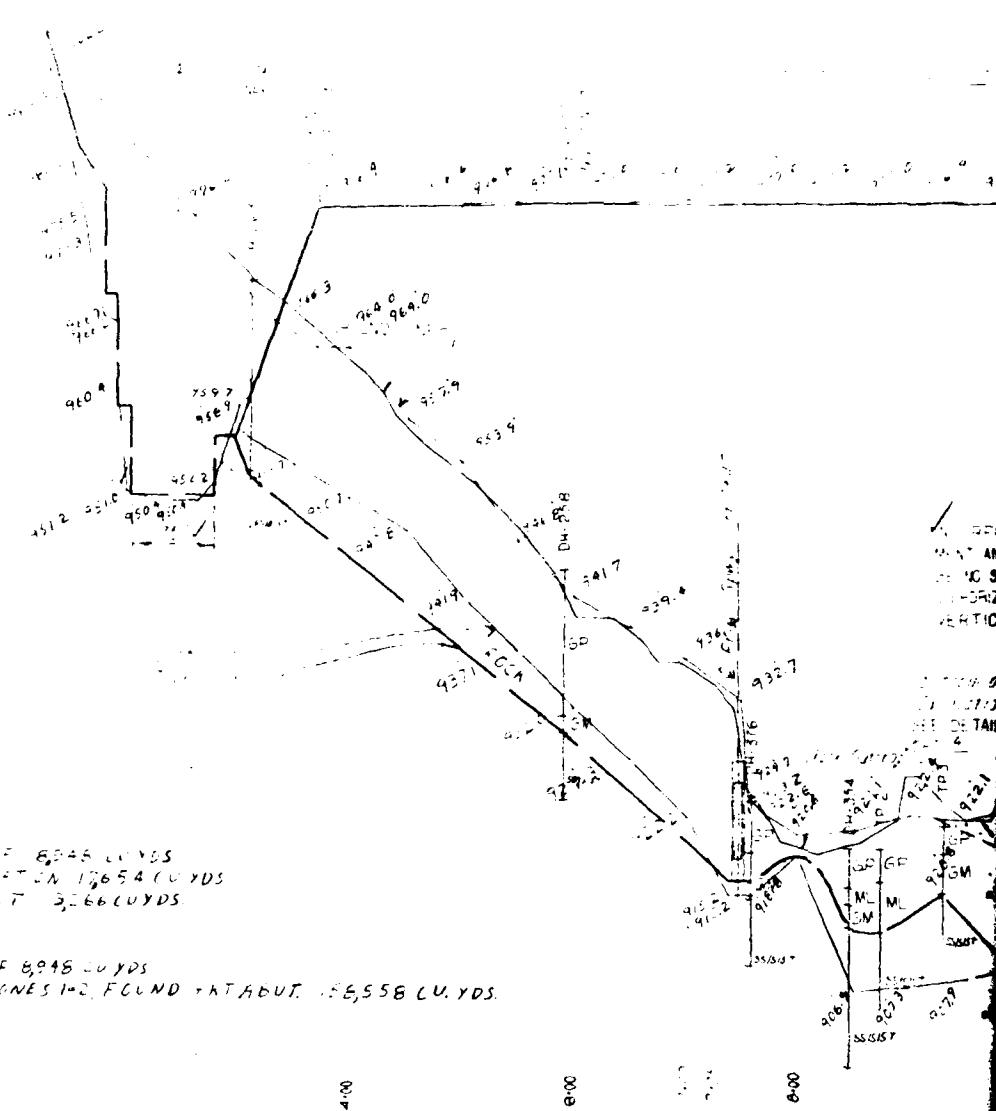
WASTE  
 AREA

AS BUILT

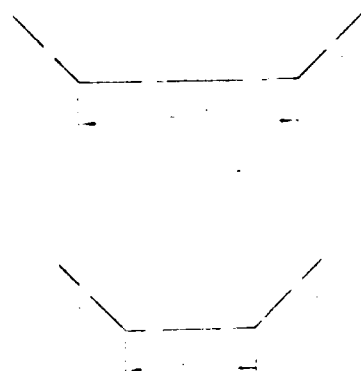


EXCAV  
 CUT OFF 8,948 CU YDS  
 FOUNDATION 17,654 CU YDS  
 RT ABUT 3,566 CU YDS

FILL  
 CUT OFF 8,948 CU YDS  
 DAM RONES 1-2, FOUND + RT ABUT 156,558 CU YDS



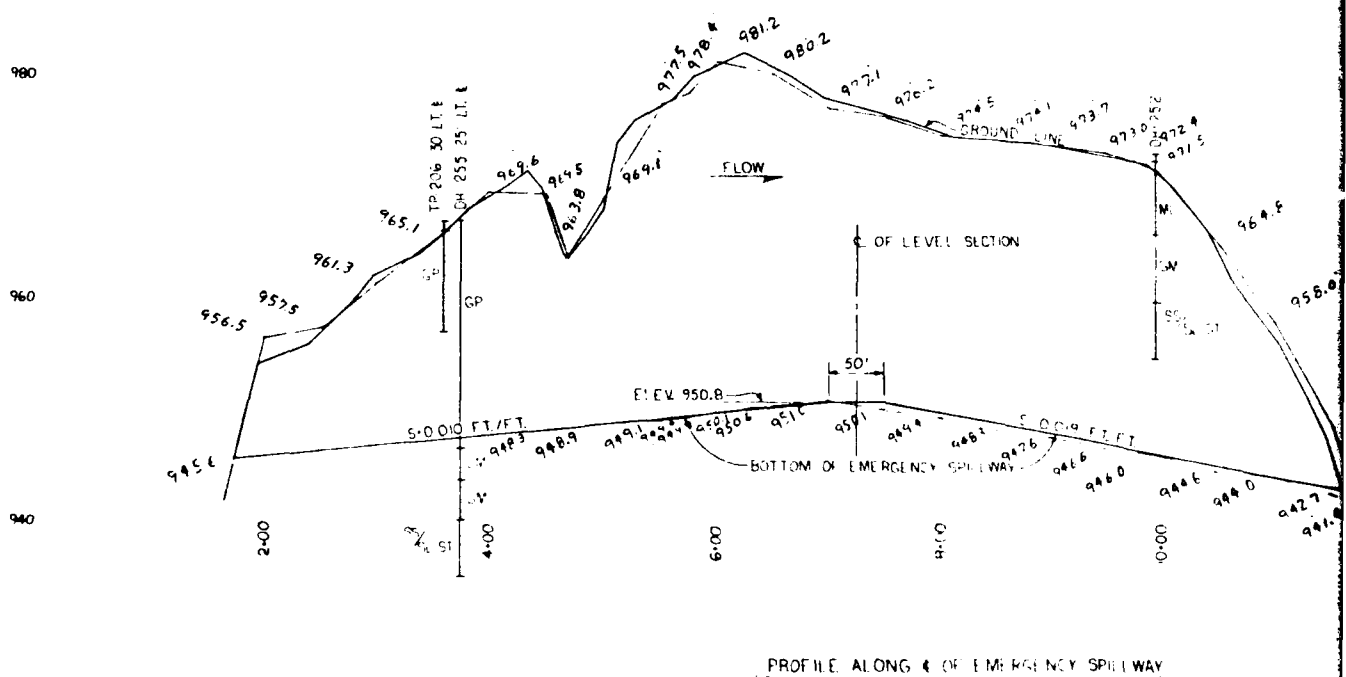
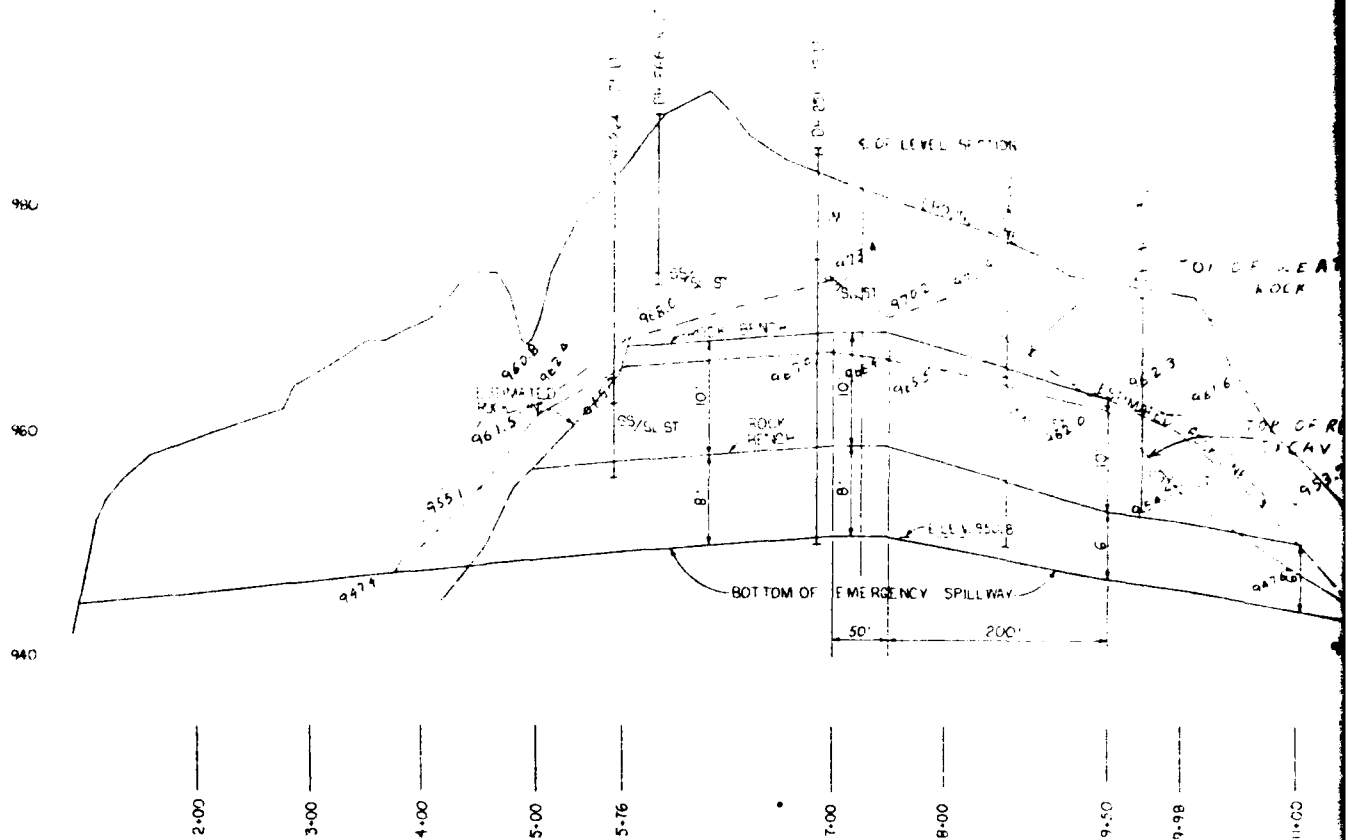
400 600 800  
 FEET

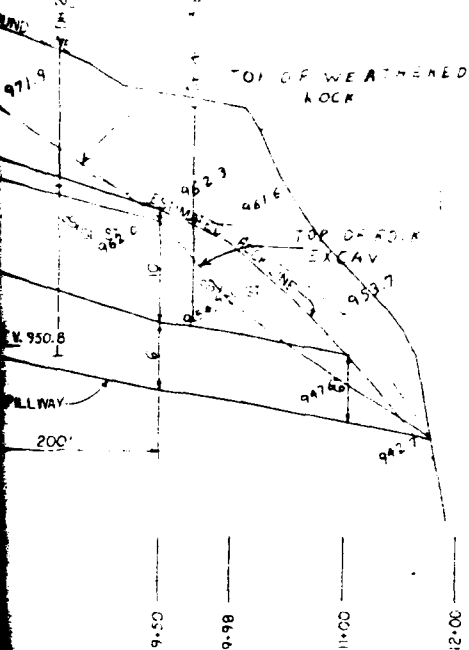


1. 2. HOLLOW, LITTLE CHOPINUT 8  
 3. 4. BROOK WATERSHED PROJECT  
 5. 6. WATER-HIGH IN DAM NO. 2  
 7. 8. LITTLE CHOPINUT WASH  
 9. 10. TRENCH EXCAVATION

ANAL. - STREAM EDGE FILL SECTION

LEAFLET





STATION 1.  
STATION 2.  
STATION 3. *Handwritten: 10/10/68*

CHANNEL 4. *Handwritten: 10/10/68*  
EMERGENCY. *Handwritten: 10/10/68*  
TO BE INSTALLED FROM  
AFRICA. *Handwritten: 10/10/68*  
TO THE BUILDING.

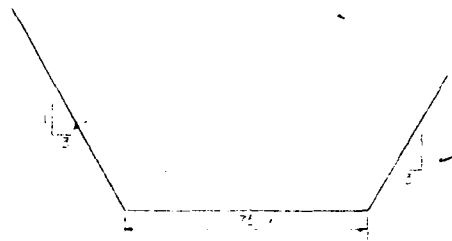
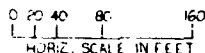
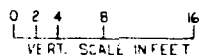
THE 2.5% SURGE CHARGED WILL BE  
APPLIED TO THE CHARGES FOR THE  
RENTAL OF THE EQUIPMENT AND  
THE RENTAL OF THE EQUIPMENT  
AT THE TIME OF CONSTRUCTION

D=6 EXONSTREAM FROM  
STATION 4-50

SECTION OF EMERGENCY SPILLWAY  
THRU ROCK

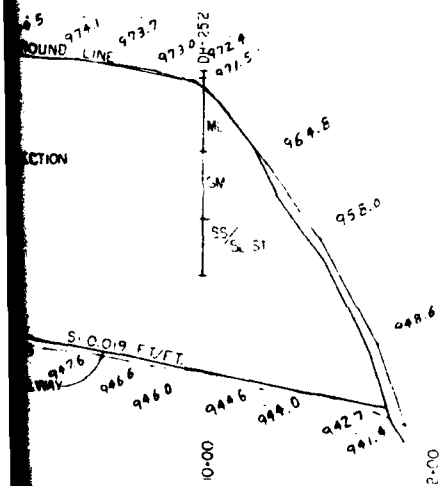
THIS SECTION SHOWS THE CONFINEMENT REQUIREMENTS FOR THE LAYOUT OF THE EMERGENCY SPILLWAY IN AREAS OF ROCK EXPOSURE.

ROCK EXCAV 27551 CU. YDS.



## SECTION OF EMERGENCY RAILWAY AT STATION 3.00

WATER FROM AERATION TANK TO DOWNSTREAM INTERLOCK  
DITCH EXCAVATION AND FROM DOWNSTREAM INTERLOCK TO  
EXCAVATION CONTROL STATION. 180



EMERGENCY SPILLWAY

## AS BUILT

FINCH HOLLOW, LITTLE CHOCONUT &  
TROUT BROOK WATER BED PROJECT  
FLOW WATER RELEASE - 1000 CFS  
LITTLE CHOCONUT DAM  
EMERGENCY SPILLWAY

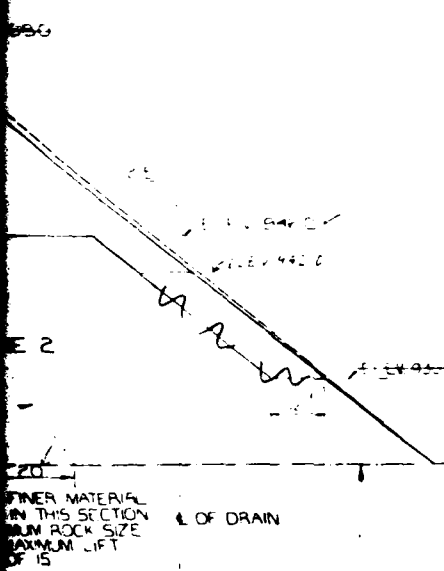


ZONE	MATERIAL 1/	EARTH FILL PLACEMENTS		MIN. REQUIRED WATER CONTENT 2/	COMPACTION 3/	
		MAX. ROCK SIZE 4/	MAX. LIFT THICK 5/		CLASS	DEFINITION
1	REPRESENTED BY MATERIAL IN TEST PIT 173 (0.5'-11.0') TEST PIT 195 (0.5'-11.0') TEST PIT 198 (0.3'-10.5') TEST PIT 203 (1.0'-5.0') DRILL HOLE 252 (7.1'-13.2')	14"	4"	PERCENTAGE POINTS BELOW OPTIMUM	A	100% OF MAXIMUM DENSITY BY ASTM D-1556 METHOD C
2	OVERSIZE MATERIAL REMOVED FROM ZONE 1 AND CORNICES, GRAVEL, SAND, SILT AND BRECCIATED BEDROCK REPRESENTED BY TEST PIT 3 (3.0'-6.5') TEST PIT 205 (1.0'-10.0') DRILL HOLE 252 (0.6'-13.2')	24"	36"	2/	V	SEE CONSTRUCTION SPECIFICATION 5
3	ROCK FROM THE EMERGENCY SPILLWAY	14"	24"		X	SEE CONSTRUCTION SPECIFICATION 5

- 1/ THE PLACEMENT TABLE INDICATES ESTIMATED USE OF MATERIAL.
- 2/ a. MAXIMUM ROCK SIZE PLACED IN BACKFILL COMPACTED BY MEANS OF HAND TAMPING OR MANUALLY DIRECTED POWER TAMPERS OR PLATE VIBRATORS SHALL BE 3".  
b. OVERSIZE MATERIAL (6"-24") TO BE GRADED WITHIN ZONE 2, SO THAT THE LARGER ROCKS ARE PLACED TOWARD THE DOWNSTREAM SLOPE.
- 3/ MAXIMUM LIFT THICKNESS PRIOR TO COMPACTION.
- 4/ WATER CONTENT AT TIME OF COMPACTION.
- 5/ THOROUGHLY WET BUT:  
a. NOT MORE THAN 12% MOISTURE CONTENT BASED ON THE MINUS 3/4" SIEVE UNLESS MODIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION.  
b. NOT SO WET AS TO CAUSE ADHERENCE OF THE SOIL TO THE WHEELS OR TRACKS OF EQUIPMENT, NOR TO CAUSE MIDDING DOWN OF EQUIPMENT.
- 6/ FOR TYPICAL COMPACTION CURVES SEE THIS SHEET.

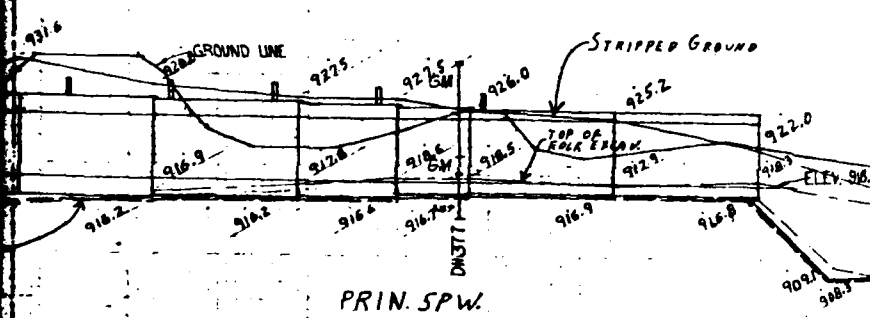
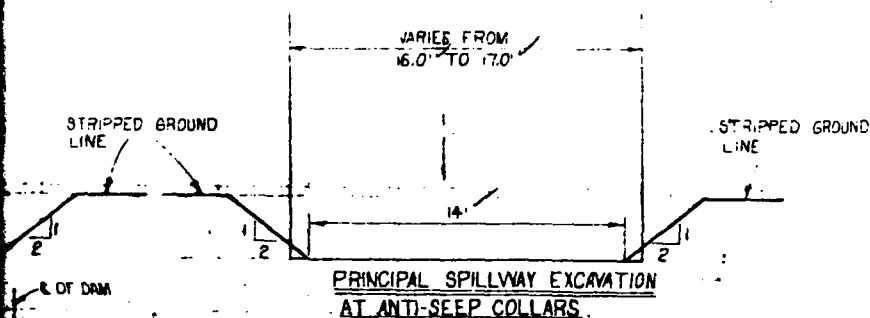
#### CONSTRUCTION DETAILS

1. THE FOUNDATION SURFACE THROUGHOUT THE BASE AREA OF THE DAM SHALL BE SCARIFIED (EXCEPT WHERE FOUNDATION IS BEDROCK) TO A DEPTH OF 6" AND COMPACTED PRIOR TO PLACEMENT OF EARTH FILL.
2. ZONE BOUNDARIES INDICATED ARE APPROXIMATE. ADJUSTMENTS WILL BE MADE BY THE ENGINEER TO PERMIT THE CONTRACTOR TO UTILIZE ALL USEABLE REQUIRED EXCAVATION WITHIN THE NEAT LINES OF THE EMBANKMENT.
3. TOPSOIL THAT IS SUITABLE FOR USE SHALL BE INCORPORATED WITHIN THE SLOPES OF THE EARTH FILL AS DIRECTED BY THE ENGINEER.



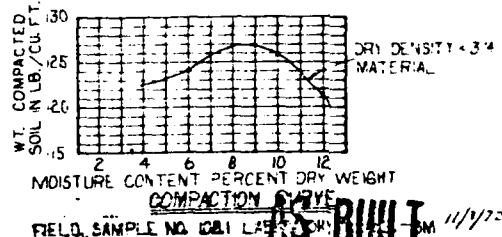
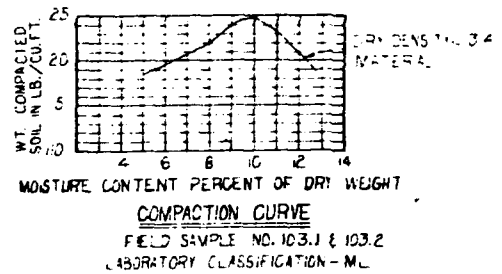
STRIPPED GROUND LINE OR BOTTOM OF FOUNDATION EXCAVATION

9.00  
FOOT



PRIN. SPW.  
EXCAV. COMMON 5544 CU. YDS.  
ROCK EXCAV. 158 CU. YDS.  
FILL 4294 CU. YDS.

PLUNGE POOL - CUTLET CH.  
EXCAV. COMMON 745 CU. YDS.  
ROCK EXCAV. 305 CU. YDS.

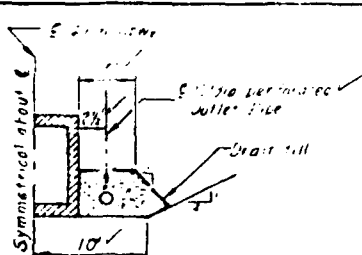
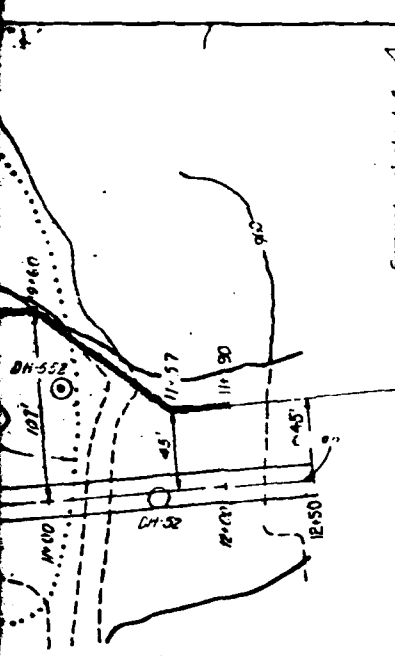


FINCH HOLLOW, LITTLE CHOCONUT & TROUT BROOK WATERSHED PROJECT  
FLOODWATER RETARDING DAM NO. 2  
LITTLE CHOCONUT CREEK  
FILL PLACEMENT & PRINC. SPWY EXCAV  
U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

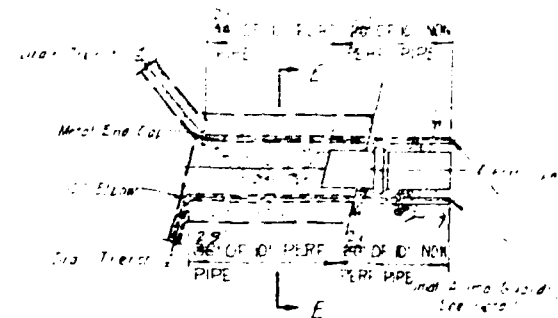
Date	4/68	Approved by	
Drawn by	H. T. Brown	Checked by	
Field	LB	Year	9/69
Sheet	26	Project	NY-2015-P



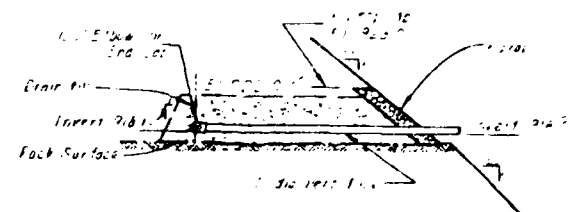




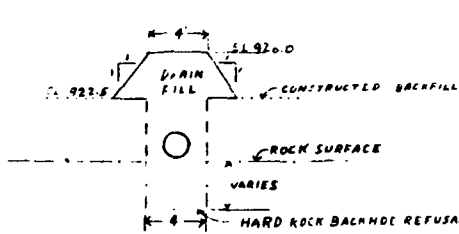
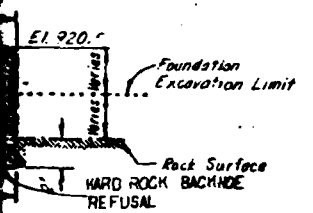
**SECTION E-E**  
Not to Scale



**PLAN OF DRAIN**  
Not to Scale



**TYPICAL SECTION ALONG OUTLET DRAIN**  
Not to Scale



**SECTION F-F**  
Not to Scale

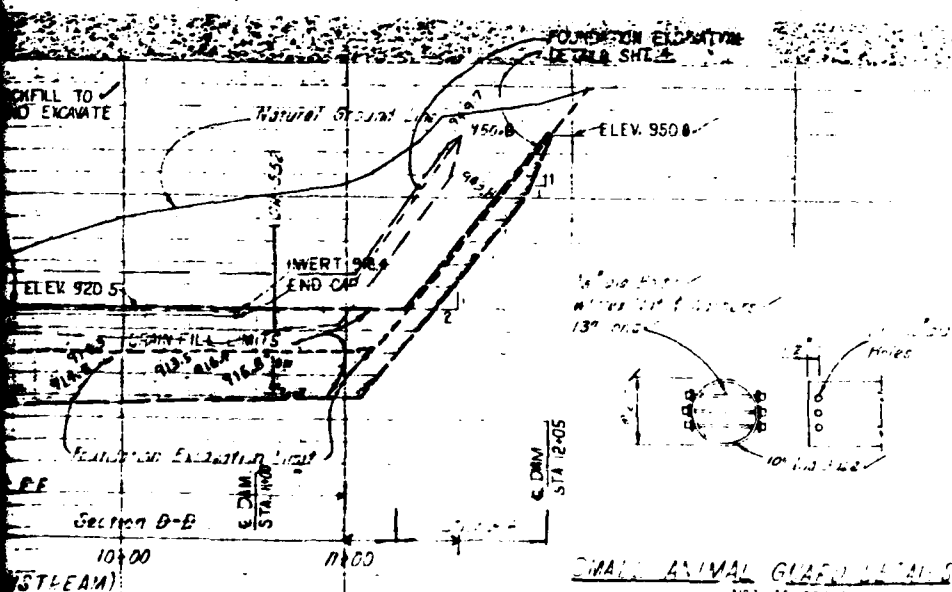
V. 450 CU. YDS.  
FILL 1066 CU. YDS.

1. ALL DRAIN PIPE SHALL BE 10" DIA. AND SHALL BE 10' LONG.
2. THE PROFILE OF THE DRAIN SHALL BE AS SHOWN ON THE PLAN. APPROXIMATELY 10' LONG. THE DRAIN SHALL BE 10' LONG.

DESIGN DATA FOR DRAIN FILL	
NO.	DESCRIPTION
1	10' DIA. DRAIN PIPE
2	10' DIA. DRAIN PIPE
3	10' DIA. DRAIN PIPE
4	10' DIA. DRAIN PIPE
5	10' DIA. DRAIN PIPE
6	10' DIA. DRAIN PIPE
7	10' DIA. DRAIN PIPE
8	10' DIA. DRAIN PIPE
9	10' DIA. DRAIN PIPE
10	10' DIA. DRAIN PIPE

**AS BUILT**

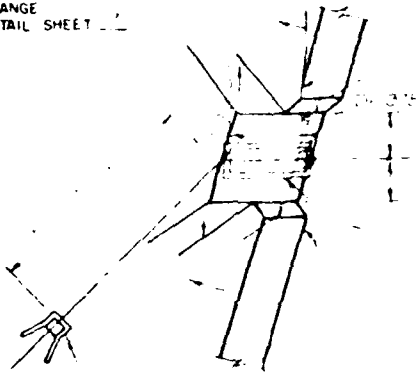
FINCH HOLLOW, LITTLE CHOCONUT B  
TROUT BROOK WATERSHED PROJECT  
FLOODWATER RETARDING DAM NO 2  
LITTLE CHOCONUT CREEK  
DRAINAGE DETAILS  
U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE



**DRAINAGE DETAILS**  
NOT TO SCALE

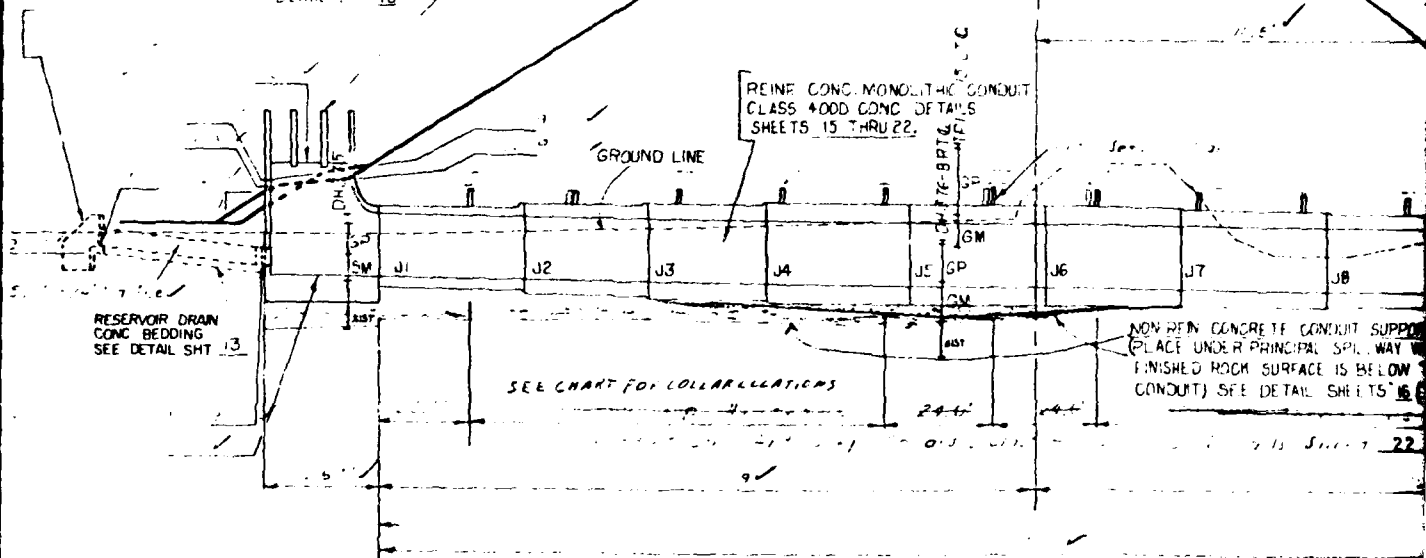
D. B. BROWN  
J. M. 2  
11 26  
NY-2015-P

ONE (1) 2' 0" LENGTH WITH  
FLANGE  
DETAIL SHEET



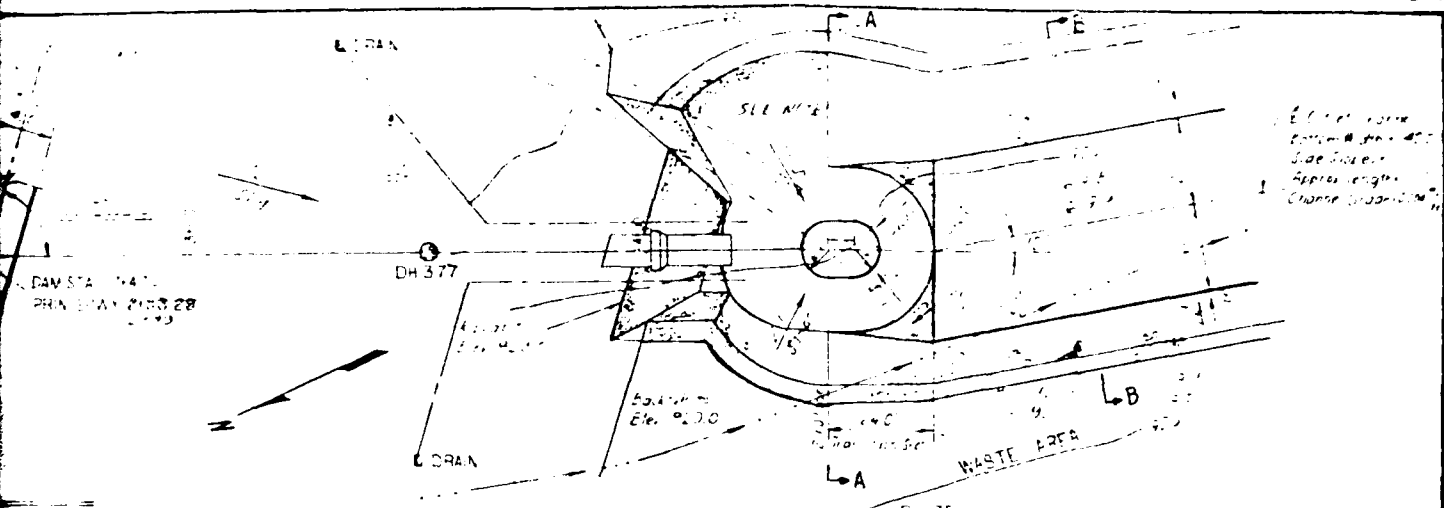
DETAIL SHT 24  
USE STANDARD MECHANICAL JOINTS  
PIPE SHALL CONFORM TO SPEC 300  
AND SHALL BE 24" NOMINAL DIA  
THICKNESS CLASS 1

DETAIL SHT 13



PROFILE ALONG C OF PRINCIPAL SPILLWAY (LOOKING DOWNSTREAM)



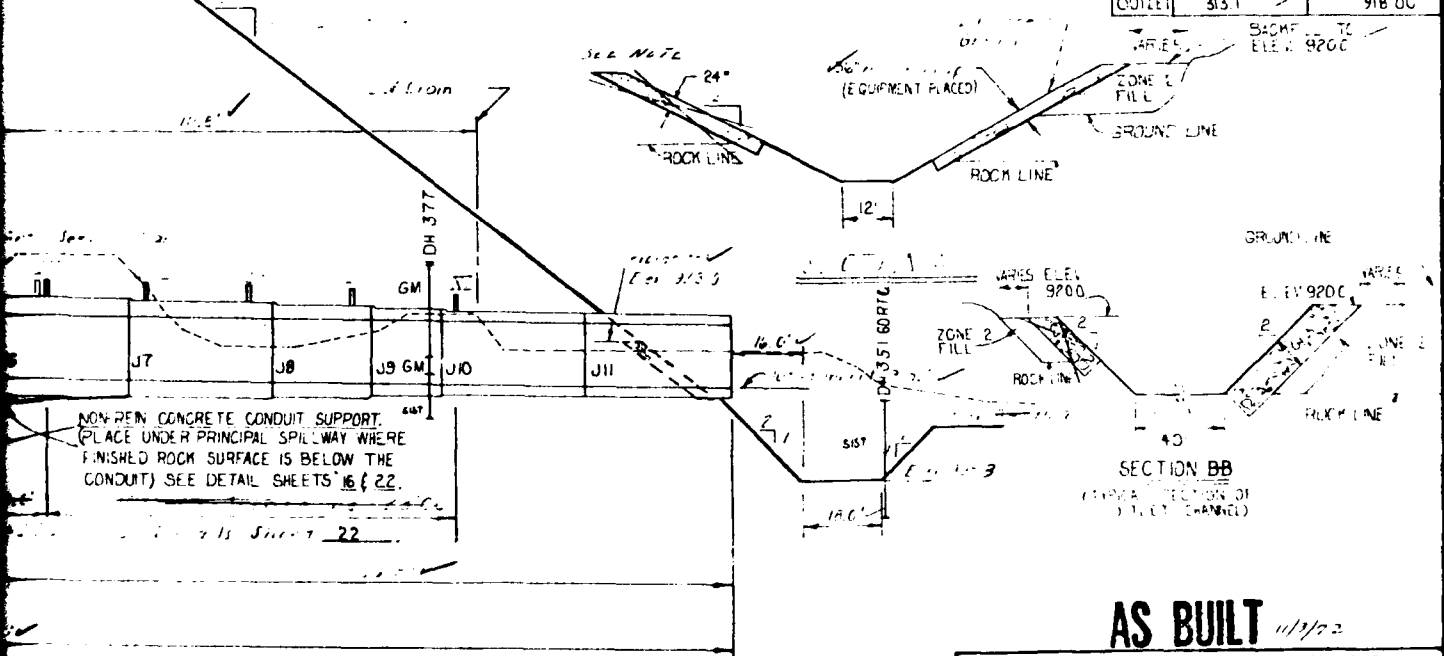


**NOTE:**

NATURAL ROCK ON EAST SIDE OF  
SPILLWAY WALL AND OUTLET CHANNEL.  
HIGH FLOWING WATER WOULD  
HAVE BEEN A PROBLEM.

RIPPRAP 625 CU. YDS.

COLLAR	DISTANCE FROM RISER WALL	INVERT OF MONOLITHIC CONDUIT	JOINT	DISTANCE FROM RISER WALL	INVERT OF MONOLITHIC CONDUIT
I	200	918.94	J-1	@ Riser Wall	919.00
II	430	918.86	J-2	32.0	918.90
III	660	918.79	J-3	59.0	918.81
IV	890	918.72	J-4	86.0	918.73
V	1120	918.64	J-5	117.42	918.65
VI	1340	918.57	J-6	148.25	918.55
VII	1600	918.49	J-7	179.1	918.43
VIII	1830	918.42	J-8	211.1	918.35
IX	2040	918.34	J-9	233.1	918.26
X	2290	918.27	J-10	249.1	918.21
XI	2520	918.20	J-11	281.1	918.10
			OUTLET	313.1	918.00



**AS BUILT** 11/3/72

FINCH HOLLOW, LITTLE CHOCONUT &  
TROUT BROOK WATERSHED PROJECT  
FLOODWATER RETARDING DAM NO. 2  
LITTLE CHOCONUT CREEK  
PRINCIPAL SPILLWAY

U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

- CONSTRUCTION DETAILS**
1. ALL RIPRAP SHALL BE GRADED FROM A MIN. SIZE OF 3" TO THE MAXIMUM COARSE THICKNESS SHOWN. A MAXIMUM OF 20% SHALL BE LESS THAN 6" (≈ 10 LB) AND A MAXIMUM OF 10% SHALL BE LESS THAN 12" (≈ 40 LB).
  2. ROCK RIPRAP ON EAST SIDE OF CHANNEL (≈ 3 FEET) TO SPILLWAY WALL. ROCK RIPRAP (3" THICK) ON WEST SIDE OF OUTLET CHANNEL EXTENDING FROM STA. 4 + 43 TO STA. 7 + 15 ALONG THE FACE OF THE DIKE. DIKE TO EXTEND FROM THE DOWNSTREAM TOE OF THE DAM TO STA. 7 + 15.

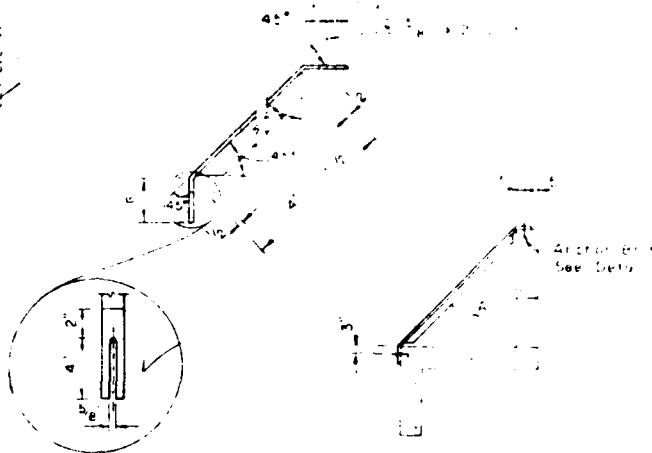
Designed by	Date	Approved by	Date
Drawn by		Checked by	
Traced by		Scale	1" = 20'
Reviewed by		Project No.	NY 2015-P

# RESERVOIR DRAIN TRASH RACK BILL OF MATERIALS

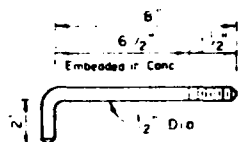
Item	Size	Length	Quan
Anchor Bolt	2" Dia	2' x 8"	4

## CONSTRUCTION DETAILS

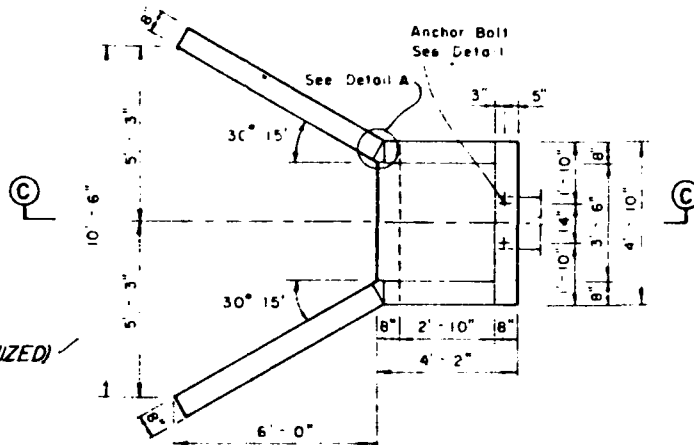
1. Material in reservoir drain trash rack shall conform to Spec 117 for structural carbon steel plates, shapes, and bars.
2. Trash rack to be painted in accordance with spec 22



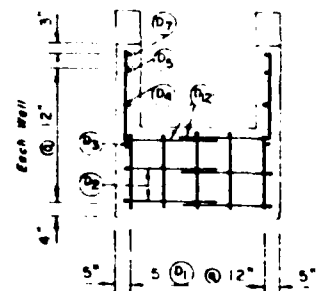
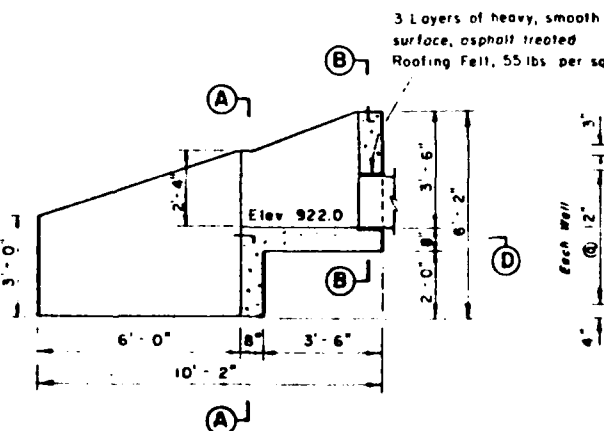
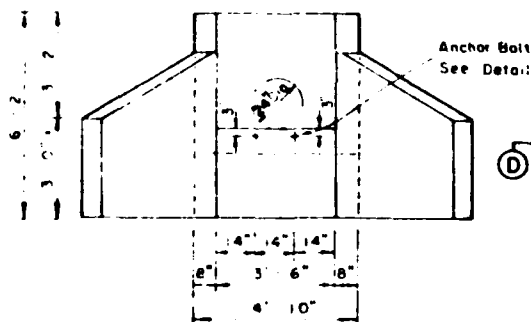
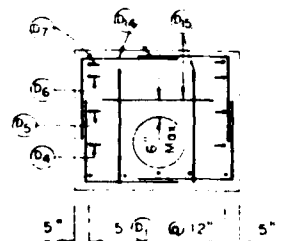
TRASH RACK



Stainless Steel (Class 303, 303 Se or 304, Condition A)  
Supply with washers and Type 2 nuts  
NOT TO SCALE



DETAIL A



REINF. CONCRETE RESERVOIR DRAIN INLET  
(CLASS 4000 CONC.)

BAR TYPES

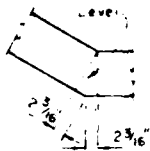
RESERVOIR DRAIN STEEL SCHEDULE

Mark with size, length, type, #, and total length

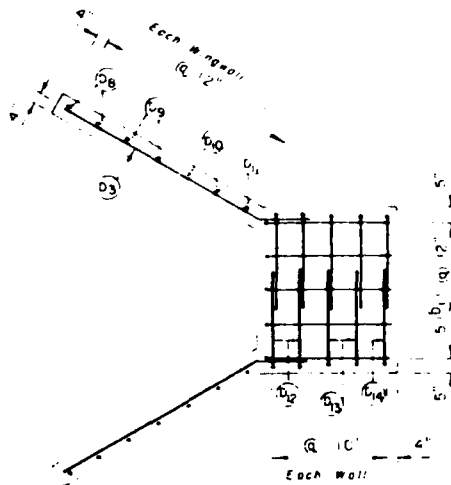
Mark	Size	Length	Type	#	Total Length
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5	4	4	2	2	8
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9	4	4	2	2	8
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ISOMETRIC

Anchor Bolt  
See Detail



DETAIL A



SECTION DD

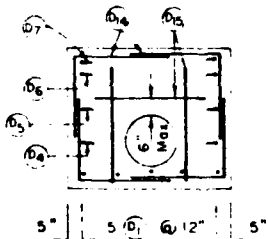
QUANTITIES (This Sheet Only)

STEEL

No. 4 Bar 166 lb. 75 lbs.

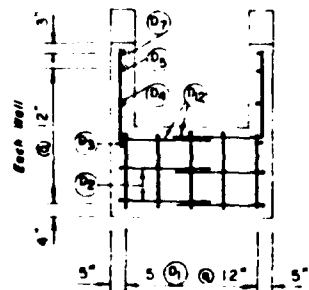
CONCRETE

REINF. 2-33 10' 10'

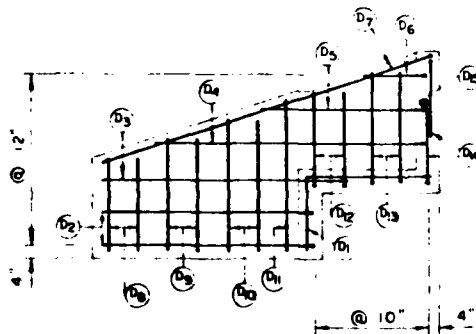


SECTION BB

smooth  
coated  
lbs per sq



SECTION AA



SECTION CC

AS BUILT 11/2/88

FINCH HOLLOW, LITTLE CHOCONUT &  
TROUT BROOK WATERSHED PROJECT  
FLOODWATER RETARDING DAM NO. 2  
LITTLE CHOCONUT CREEK  
RESERVOIR DRAIN INLET DETAILS  
U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

Drawn by: D. R. Barnes 11/2/88  
Checked by: [Signature] 11/2/88  
Date: 11/2/88  
Sheet: 24 of 26  
Project: NY-2015-P

QIR DRAIN INLET  
(CONC.)



TP 206, Emer. Spill., Elev. 980.9

0 1.0 Topsoil - Material B  
1.0 10.0 Material A (GP)

TP 207, Emer. Spill., Elev. 983.6

0 1.0 Topsoil - Material B  
1.0 10.0 Material A (GP)

TP 208, Emer. Spill., Elev. 982.0

0 3.0 Material C (GM)  
3.0 7.0 " E (SM)  
7.0+ " H (ss, slat)

TP 209, Emer. Spill., Elev. 980.8

0 0.5 Topsoil - Material B  
0.5 9.0 Material A (GP)  
9.0 11.5 " F (ML) D.S. 209.1  
J9'

TP 210, Emer. Spill., Elev. 983.6

0 0.5 Topsoil - Material B  
0.5 7.0 Material A (GI)  
7.0 9.0 " E (SM)

Note: Occasionally heavy boulders.

TP 301, Frin. Spill., Elev. 919.4

0 1.0 Material B (GP)  
1.0 6.0 " D (GM)  
6.0+ " H (ss, slat)

TP 302, Frin. Spill., Elev. 919.7

0 3.0 Material B (GI)  
3.0 6.0 " C (ML)  
6.0+ " H (ss, slat)

TP 303, Frin. Spill., Elev. 919.5

0 3.0 Material B (GP)  
3.0 7.0 " C (ML)  
7.0+ " H (ss, slat)

TP 304, Frin. Spill., Elev. 919.3

0 2.0 Material B (GP)  
2.0 5.5 " C (ML)  
D.S. 304.1 5' MAT'L "D" (GM)  
5.5 10.5 Material D (GM)

Note: Medium seepage from adjacent creek 12'.

TP 305, Frin. Spill., Elev. 919.2

0 3.0 Material B (GP)  
3.0 8.0 " D (GM)

DRILL HOLE LOGS

DM 51, C/L, Elev. 925.9

N =

RB	0.0	Material I
RB	8.0	Material B
RB	10.0	Material C
40		
RB	14.0	
100		
RB	18.0	Material D
NA		
100		
100	ss, slat	Material H
	23.0	

DM 52, C/L, Elev. 956.6

RB	0.0	Topsoil - Material K
RB	0.5	Material A
RB	11.0	Material C
RB	40.5	Material D
RB	49.0	

Note: Hole abandoned due to cave-in.

DM 53, C/L, Elev. 926.9

N =

RP	0.0	Material I
RP	4.0	Material D
RP	14.5	
NA		
100	ss, slat	Material H
	17.5	

DM 54, C/L, Elev. 932.9

RP	0.0	Material I
RP	10.5	Material C
RP	18.5	Material D
RP	22.0	
NA		
100	ss, slat	Material B
98'		22'-25' very fractured, 3' void, filled with matrix 23.5'; 25'-26.5' core sound and solid.
	26.5	

DM 251, Emer. Spill., Elev. 982.9

RE	0.0	Topsoil - Material A
RE	0.4	
RE	43	Material C
RE	120	
RE	9.8	
NA		
96'	ss, slat	Material B
		Fracture zone 12.8'; 14'-22' thinly bedded; 20'-25' vertical shear fracture open, weathered, discolored; 22'-35' sound, solid.
100'		35.0

Note: C.W.L. at 6.9'.

DM 252, Emer. Spill., Elev. 973.6

RE	0.0	Topsoil - Material K
RE	0.6	
RE	10	Material B
RE	15	
RE	7.1	
RP		
90	GM	Material C
RP		
100	ss, slat	Material B
		Solid, sound - 15.9'-16.7' thinly bedded
	18.2	

Note: C.W.L. at 3.9'.

DM 253, Emer. Spill., Elev. 973.6

RE	0.0	Topsoil - Material B
RE	0.4	
RP	2.5	Material B
NA		
33'	GM	Material D
40		
RP		
NA		
99'	ss, slat	Material B
100'		12.5'-14' weathered; 14'-33' sound, varved
	37.0	

Note: C.W.L. 34'.

DM 254, Emer. Spill., Elev. 944.9

RP	0.0	Material
RP	10.0	
RP	24.0	Material I
RP	24.0	
NA		
100	ss, slat	Material B
		24'-29.5' - sound, solid, some vertical stress fractures
	29.5	

DM 255, Emer. Spill., Elev. 944.9

RP	0.0	Material
RP	20.8	Material I
RP	20.8	
RP	20.8	Material B
RP	20.8	
NA		
100	ss, slat	Material B
		Sound, solid
	20.8	

DM 256, Emer. Spill., Elev. 944.9

RP	0.0	Material
RP	10.0	Material
RP	10.0	
RP	10.0	Material D
RP	10.0	
NA		
100	ss, slat	Material
		Fractured, some vertical stress fractures; 15.9'-16.7' sound, solid
	19.3	

DM 257, Emer. Spill., Elev. 944.9

RP	0.0	Material
RP	10.0	Material B
RP	20.8	

DM 258, Emer. Spill., Elev. 944.9

RP	0.0	Material
RP	13.0	Material D
RP	13.0	
NA		
100	ss, slat	Material
		13.0'-16.0' fractured; 16.0'-20.5' sound, solid
	20.5	

Note: Water loss from 21'-25'.

AS BUILT

FINCH HOLLOW LITTLE CHOCONUT &  
TROUT BROOK WATERSHED PROJECT  
FLOODWATER RETARDING DAM NO 2  
LITTLE CHOCONUT CREEK  
LOGS OF TEST HOLES  
U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

Prepared by - [Signature] B 66

STATE CONS. ENGINEER

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26 NY 2015 P



DM 259, Prin. Spill., Elev. 929.8

M =

	0.0	Topsoil - Material K
70	0.2	Material E
20	4.5	Material E
20	6.0	Material E
80	7.5	Material E
100	13.0	Material H solid, occasionally slaty near

DM 259, Prin. Spill., Elev. 929.8

80	ss, silt	Material H sound, solid
100	13.0	

Note: Back pressure from 21'-9".

DM 252, Prin. Spill., Elev. 921.2

80	GP	Material B
80	GP	Material D
100	ss, silt	Material H very fractured
100	18.5	

Note: Back pressure from 11.5'-13.5'.

DM 253, Prin. Spill., Elev. 921.0

100	GP	Material B
90	2.5	Material E
100	7.0	Material G
50	9.0	Material D
80	11.6	Material D 1.5' dia. sandstone boulder @16'
55	19.5	Material H 19.5'-21' fractured; 21'-24.5' sound, solid
100	24.5	

DM 254, Prin. Spill., Elev. 919.4

80	GP	Material B
80	ML	Material C
80	GP	Material D
80	ss, silt	Material H 5'-6.2' sound, solid; 6.2'-12' fractured; 12'-19.5' solid 13.3'-13.9' fractured 19.0'-19.5' fractured some
60	19.5	

Note: \*No record of recovery from 13'-14'.  
Hole water tested, no absorption.

DM 355, Prin. Spill., Elev. 927.8

80	GP	Material B
80	ss, silt	Material H 1'-3' fractured; 3'-6' solid; 6'-6.5' fractured some with matrix; 6.5'-12' solid.
100	17.0	

Note: Hole water tested, no absorption.

DM 375, Prin. Spill., Elev. 921.2

25	0.0	Topsoil - Material K
55	1.0	Material C
120	4.5	Material E
70	7.5	Material H 8'-9.3' highly weathered and fractured; 9.3'-13' solid
130	13.0	

Note: G.W.L. @2'.

DM 376, Prin. Spill., Elev. 924.0

14	0.0	Topsoil - Material K
40	0.4	Material A
70	4.5	Material D
65	9.0	Material H occasionally thinly bedded and weathered 10.5'-11.5' some thinly bedded gouge filled joints; gouge filled horizontal joint @12.5'. 13'-15' sound, occasional fractures
150	15.0	

Note: G.W.L. @1'.

DM 377, Prin. Spill., Elev. 931.4

20	0.0	Topsoil - Material K
15	0.2	Material C
60	10.3	Material D
70	12.5	Material H sound, solid
40	17.5	

Note: G.W.L. @12'.

DM 551, Drain Line, Elev. 994.5

80	0.0	Material I
80	13.0	Material B
80	16.0	Material D
80	22.0	Material H sound @23', matrix filled some
95	27.0	

DM 5, Borrow Area, Elev. 927.8

Auger	0.0	Overburden
Auger	4.0	Overburden
Auger	4.0	Overburden
Auger	4.0	Overburden

DM 11, Borrow Area, Elev. 927.8

Auger	0.0	Overburden
Auger	32.0	Siltstone - weathered ss - silt
Auger	37.0	

DM 13, Borrow Area, Elev. 927.8

Auger	0.0	Overburden
Auger	30.0	Siltstone - fractured weathered ss - silt
Auger	35.0	

DM 260, Em. Spwy., Elev. 972

Auger	0.0	Overburden
Auger	10.0	Siltstone - sound (27' 3" bedding from 14'-19') ss - silt
Auger	19.0	

DM 261, Em. Spwy., Elev. 975

Auger	0.0	Overburden
Auger	25.0	Siltstone - thin bedded, weathered from 25' - 28' Sound, 2' - 6" bedding from 25' - 33' ss - silt
Auger	33.0	

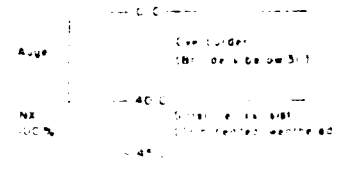
DM 262, Em. Spwy., Elev. 972

Auger	0.0	Overburden
Auger	13.5	Siltstone Sound from 13.5' - 18.5' Thin bedded and clay seams from 18.5' - 21.5' Sound from 21.5' - 23.5' ss - silt
Auger	23.5	

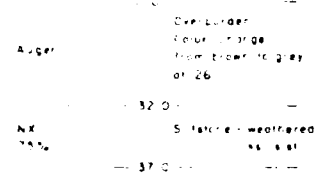
DM 263, Em. Spwy., Elev. 970

Auger	0.0	Overburden
Auger	17.0	Siltstone Thin bedded - 1/4" beds weathered - fractured ss/silt
Auger	22.0	

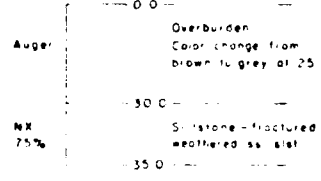
DM 5, Arrow Area - Elev 907



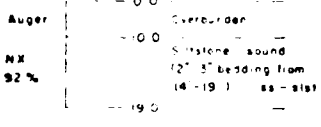
DM 10, Arrow Area - Elev 919



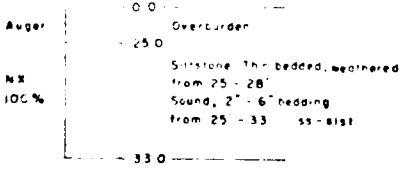
DM 53, Arrow Area - Elev 977



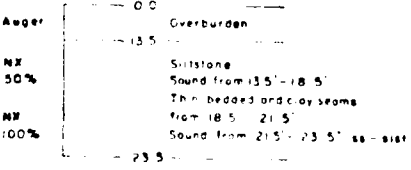
DM 260, Em Spwy - Elev 972



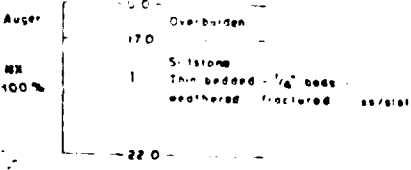
DM 261, Em Spwy - Elev 973



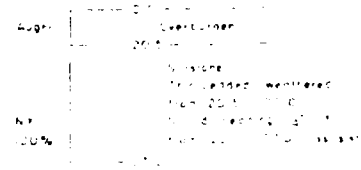
DM 262, Em Spwy - Elev 972



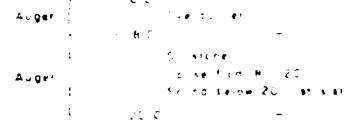
DM 263, Em Spwy - Elev 970



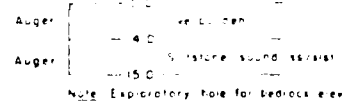
DM 64, Em Spwy - Elev 945



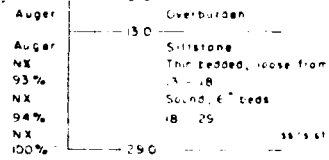
DM 167, Em Spwy - Elev 976



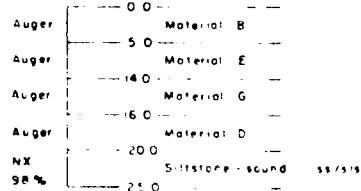
DM 168, Em Spwy - Elev 978



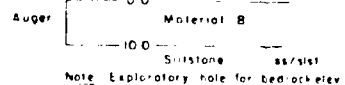
DM 267, Em Spwy - Elev 978



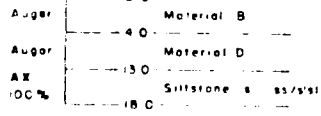
DM 356, Princ Spwy - Elev 922



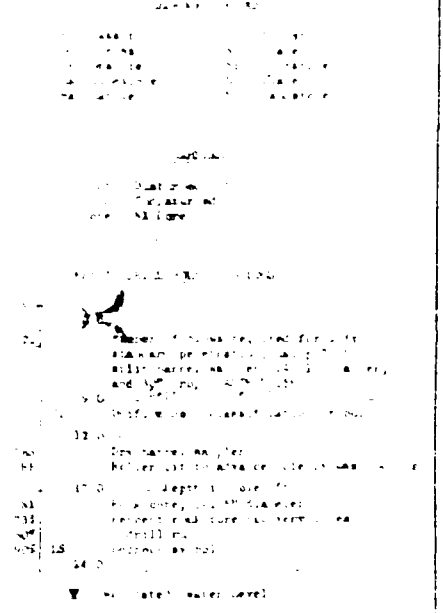
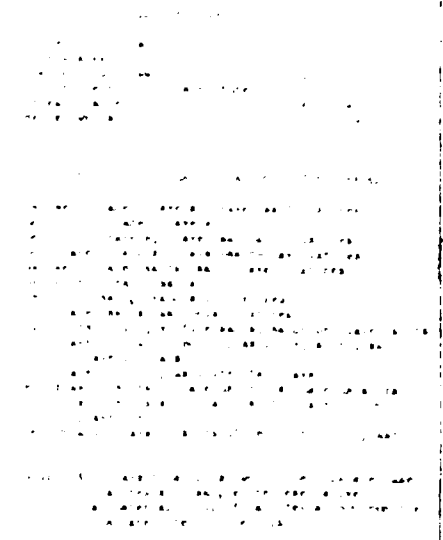
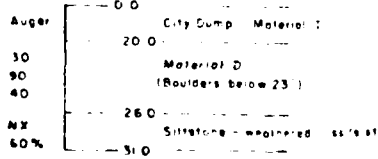
DM 357, Princ Spwy - Elev 922



DM 358, Princ Spwy - Elev 922



DM 552, Drain Line - Elev 935



GEOLOGY NOTE

DRILL HOLES 151, 152, 153, 260, 261, 262, 263, 264, 265, 266, AND 267 WERE INVESTIGATED FOR DATA ON THE ELEVATIONS AND PHYSICAL CONDITION OF THE BEDROCK AND DO NOT INDICATE THE DETAILED DESCRIPTION OF THE OVERBURDEN.

**AS BUILT**

FINCH HOLLOW LITTLE CHOONUT & TROUT BROOK WATERSHED PROJECT  
FLOW WATER RETARDING DAM NO 2  
LITTLE CHOONUT CREEK  
LOGS OF TEST HOLES  
U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
SPECIAL AGENT IN CHARGE E. G. G. STATE CONS. ENGINEER